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BIBLIOGRAPHY

DISSERTATION[S] FOR DEGREES IN SCIENCE AND ENGINEERING DEFENDED AT USSR HIGHER EDUCATIONAL INSTITUTIONS. 30 Sep 59, 34p. 253 refs. JPRS: L-1003-N.
Order from OTS $1.00 59-13915

Trans. from Knizhnaya Letopis' [Moscow] (USSR) 1957 no. 47-50.

The names of the candidates, the titles of their theses, the names of the institutions granting the degrees, and the number of copies printed are given.

DISSERTATION[S] FOR DEGREES IN SCIENCE AND ENGINEERING DEFENDED AT USSR HIGHER EDUCATIONAL INSTITUTIONS. 14 Oct 59, 22p, 180 refs. JPRS: L-1017-N.
Order from OTS $0.75 59-13942

Trans. from Knizhnaya Letopis' [Moscow] (USSR) 1957, nos. 42-45.

The names of the candidates, the titles of their theses, the names of the institutions granting the degrees, and the number of copies printed are given.

DISSERTATION[S] FOR DEGREES IN SCIENCE AND ENGINEERING DEFENDED AT USSR HIGHER EDUCATIONAL INSTITUTIONS. 15 Oct 59, 26p. 235 refs. JPRS: L-1910-D.
Order from OTS $0.75 59-31023

Trans. of Knizhnaya Letopis', Moscow (USSR) 1957, no. 29, p. 88-94.

Names of the candidates, titles of their theses, names of the educational institutions, and numbers of copies printed are given.

PROSPECTUS OF "VOPROSY FILOSOFII" FOR THE NEXT TWO TO THREE YEARS. 24 Nov 59, 26p. JPRS: L-1083-N.
Order from OTS $0.75 60-11048

Trans. of Voprosy Filosofii (USSR) 1959, no. 4, p. 182-190.

In publishing this prospective plan of articles, the editors are setting before authors the basic range of problems in the treatment of which the journal is interested. The elaboration of theoretical problems must be inseparably connected with practice, with life, and with the urgent tasks awaiting Soviet science and the ideological front in the historical decisions of the 21st Congress of the CPSU. (Extracted from the prospectus)

Library of Congress, Washington, D. C.
EAST EUROPEAN ACCESSIONS INDEX. Feb 60, 275p.
Order from GPO $10.00/year

Designed to serve the English-speaking user, this index lists post World War II publications received by the Library of Congress and over 100 major American research libraries from Albania, Bulgaria, Czechoslovakia, Estonia, Hungary, Latvia, Lithuania, Poland, Rumania, and Yugoslavia in all fields of knowledge. Arrangement in the first part is by country and within each country by 17 subject classes. In addition to the entry in the original language, a translation of the title or a descriptive annotation in English is given for each monograph and periodical, with the tables of contents translated into English for selected periodicals. The second part, comprising approximately two-thirds of the Index, consists of a subject index to all articles appearing in periodicals for which the tables of contents are translated and to all monographs listed.

AGRICULTURE

SELECTED TRANSLATIONS ON SOVIET AGRICULTURE (INCLUDING CROPS, IMPLEMENTS, AND LIVESTOCK) NO. 4. 25 Sep 59, 45p. JPRS: 937-D.
Order from OTS $1.25 59-31004

Contents:
Development of Sovkhoz production in the RSFSR, by T. Yurkin. Trans. of Ekonomika Sellskogo Khozyaystva (USSR) 1959 [v. 30] no. 3, p. 38-43.

Kolkhoz production and financial plan, by P. A. Kal'm. Trans. of Sel'skoye Khozyaystvo Severo-Zapodny Zony (USSR) 1959 [v. 2] no. 3, p. 65-68.
Organization and Mechanization of transport and ware-warehouse operations in machine building, by M. Zhuravlev and L. Karpov. Trans. of Sotsialisticheskiy Trud (USSR) 1958, no. 8, p. 65-72.
Labor organization and payment of shepards in Kazakhstan Kolkhozes, by D. T. Tovma. Trans. of Ovtsevodstvo (USSR) 1959, no. 1, p. 10-14.
More grain and ensilage from corn. Trans. of Zhivotnovodstvo (USSR) 1959, no. 3, p. 3-6.
Prospects for the development of fodder production in the near future in the USSR, by L. V. Larin. Trans. of Vestnik Sel'skokhozyaystvennoy Nauki (USSR) 1959 [v. 4] no. 3, p. 21-26.

SELECTED TRANSLATIONS ON SOVIET AGRICULTURE (INCLUDING CROPS, IMPLEMENTS, AND LIVESTOCK) NO. 5. 12 Oct 59, 44p. (7 figs. omitted). JPRS: 960-D.
Order from OTS $1.25 59-31015

Contents:
On measures for increasing yields and tasks of agricultural sciences, by M. G. Chizhevskiy. Trans. of [Moskovskaya Sel'skokhozyaystvennaya Akademiya. Izvestiya] (USSR) 1959, no. 2(27), p. 15-24.
Winter sowing, by A. Smirnyagina. Trans. of Tekhnika Molodezhi (USSR) 1958 [v. 26] no. 11, p. 8-10.
S-6 Combine become self-propelled, by D. A. Lozhkin. Trans. of Sel'skoye Khozyaystvo Severnogo Kavkaza (USSR) 1959 [v. 2] no. 1, p. 20-23.
New Ideas in Harvesting and Storing Corn, by A. Os'kin and A. Yerkayev. Trans. of Sel'skoye Khozyaystvo (USSR) 1959, no. 169(8423), p. 3.
Experiments in Reducing the Net Cost of Artificial Insemination of Cows, by Yu. D. Kornilov, S. N. Cheredkov, and V. F. Yakimchik. Trans. of Zhivotnovodstvo (USSR) 1959, no. 6, p. 23-25.
Hybridization of Zebu and Cattle, by F. D. Kryzhanovskiy. Trans. of Zhivotnovodstvo (USSR) 1959, no. 6, p. 41-43.

Chudnovskiy, A. F.
CONTEMPORARY STATUS OF KNOWLEDGE ABOUT THERMAL REGIME OF AGRICULTURAL FIELDS (Sovremennoye Sostoyaniye Ucheniya o Teplovom Rezhime Sel'skokhozyaystvennogo Polya) ed. by A. F. Ioffe and I. I. Samoylova. [1959] 34p. 20 refs. Trans. A-997.
Order from LC or SLA mi$3.00, ph$6.30 59-16797

Trans. of mono. Voprosy Agronomicheskoy Fiziki, Leningrad, 1957, p. 127-142.

Davtyan, E. A.
PATHOGENICITY OF DIFFERENT FASCIOLA SPECIES, AND ITS VARIABILITY AS A RESULT OF THE CONDITIONS OF DEVELOPMENT OF THEIR PARTHENOGENETIC STAGES (O Patogennosti Razlichnykh Vidov Fastsiol i yeye Izmenchivosti v Zavisimosti ot Uslovity Razvitiya Partenogeneticheskikh Stadiy) tr. by M. Slade. [1959] [21]p. (foreign text included). Trans. no. 4329.
Order from LC or SLA mi$2.70, ph$4.80 59-19599

Trans. of Zoologicheskiy Zhurnal (USSR) 1956, v. 35, no. 11, p. 1617-1625.

Polyakov, I. Ya.
HARMFUL RODENTS. Oct 59 [71]p. RTS no. 1166.
Order from LC or SLA mi$4.50, ph$12.30 59-22592

Trans. of Russian mono. Vrednyye Gryzuny [Moscow] 1958, pt. II, sect. 1, p. 77-143.

The characteristic biological features of marmots, voles, mice, and gerbils are given and methods by which these animals may be observed, counted, and their number forecast are also included. (Author's abstract)

Plant Cultivation

REFERATIVNYY ZHURNAL. BIOLOGIYA (USSR) 1958, NO. 18 (Soviet Abstracts. Biology). 26 Jan 60, 36p. JPRS: 2190-N.
Order from OTS $1.00 60-11237

Contents:
Section K. Forestry. Abstracts 82163-82238.

Complete translations of those entries which were originally published in the Sino-Soviet bloc and in Yugoslavia.

REFERATIVNYY ZHURNAL. BIOLOGIYA (USSR) 1958, NO. 18 (Soviet Abstracts. Biology). 5 Feb 60, 43p. JPRS: 2198-N.
Order from OTS $1.00 60-11279

Contents:
Section J. Soil Science. Abstracts 82051-82161.

Complete translations of those entries which were originally published in the Sino-Soviet bloc and in Yugoslavia.

REFERATIVNYY ZHURNAL. BIOLOGIYA (USSR) 1958, NO. 18 (Soviet Abstracts. Biology). 20 Jan 60, 184p. JPRS: 2185-N.
Order from OTS $1.00 60-11233

Contents:
Section M. Cultivated Plants. Abstracts 82240-82599.

Complete translations of those entries which were originally published in the Sino-Soviet bloc and in Yugoslavia.

REFERATIVNYY ZHURNAL. BIOLOGIYA (USSR) 1958, NO. 18 (Soviet Abstracts. Biology). 27 Jan 60, 18p. JPRS: 2193-N.
Order from OTS $1.00 60-11241

Contents:
Section O. Plant Diseases. Abstracts 82642-82713.

Complete translations of those entries which were originally published in the Sino-Soviet bloc and in Yugoslavia.

Beinert, Karl.
METHODS FOR STABLE MANURE, LIQUID MANURE AND HUMUS. [1959] 18p. (20 illus. omitted) 1 ref.
Order from SLA mi$2.40, ph$3.30 60-10811

Trans. of Deutsche Landwirtschaftliche Presse (Germany) 1937, v. 64, no. 23-26, Sonderdruck.

Nikiforova, N. A.
PHYTOPHTHORA OF POTATOES UNDER CONDITIONS OF SAKHALIN. [1959] 20p. (3 figs. omitted) 1 ref. Trans. A-1060.
Order from LC or SLA mi$2.40, ph$3.30 59-22318

Partial trans. (p. 3-6, 16-18 and 59-67) of mono. Fitoftoroz Kartofelya v Usloviyakh Sakhalina, Moscow, 1958.

Stoyev, K. D. and Magriso, Yu. N.
THE EFFECT OF WATERING DURING GROWTH ON THE COURSE OF THE PHYSIOLOGICAL PROCESSES AND PRODUCTIVITY OF GRAPEVINES (Vliyaniye Vegetatsionnykh Polivov na Khod Fiziologicheskikh Protsessov i Urozhaynost' Vinogradnoy Lozy) tr. by M. Slade. [1959] [17]p (foreign text included) 21 refs. Trans. no. 4233.
Order from LC or SLA mi$2.40, ph$3.30 59-19601

Trans. of Fiziologiya Rasteniy (USSR) 1955, v. 2, no. 6, p. 565-572.

ASTRONOMY

Astrophysics

Fel'dshteyn, Ya. I.
GEOGRAPHIC DISTRIBUTION OF AURORA IN THE WESTERN PART OF THE SOVIET ARCTIC, tr. by E. R. Hope. July 59 [5]p. 7 refs. T 329 R.
Order from NRCC mi$0.50, ph$1.50 NRCC C-3132

Trans. of Problemy Arktiki (USSR) 1958, no. 4, p. 45-49.

The initial data for this research were hourly visual observations of the aurora from October 1954 through March 1955, at fifty polar stations between 67.3° and 87.5° north latitude in the longitude-interval 50° to 110°E. The maximum isochasm for all days runs from Cape Stolbovoi (Matochkin Shar) over Izvestiya Island, Tyrtov's Island, Pravda Island and André's Island; that is, along geomagnetic latitude 65°N. Vector diagrams for the sky-distribution of aurora confirm the above position of the auroral zone. On magnetically quiet days the position of the zone and the auroral occurrence-frequency in this zone remain at the same level as in the observations for all days. Within the zone, aurora is observed practically every day. At magnetically stormy times the aurora appears daily over the whole interval of latitudes. The southern boundary of the zone then lies 2° farther south than the quiet-day auroral zone; it passes a bit to the north of the southern end of Novaya Zemlia, across the northern part of the Yamal Peninsula, then south of Dickson Island, across the southern end of Lake Taimyr and Begichev Island. Meanwhile the northern boundary of the zone is approximately 1° farther north then the auroral boundary for quiet days; it passes across the northern part of Novaya Zemlia, and over Uyedineniye and Bolshevik Islands. In the transition from quiet to stormy days, the auroral occurrence-frequency increases in the regions to the north and south of the auroral zone, while remaining practically unchanged in the zone itself. This increase on the high-latitude side is less than in the regions on the south of the auroral zone. Although within the zone aurorae are seen practically every day, the duration on quiet days is considerably less than on stormy days.

Kallogl'yan, A. T.
COLORIMETRY OF BARRED-SPIRAL GALAXIES, II. [1959] 6p. (5 figs. omitted) 3 refs.
Order from LC or SLA mi$1.80, ph$1.80 59-20919

Trans. of Byurakanskaya Observatoriya. Soobshcheniya (USSR) 1958, v. 25, p. 35-42.

Comparison of the colorimetric data relating to the bars of the four galaxies NGC 936, 1023, 7479, and 7723, leads to the following conclusions. The bars of the galaxies are bluer than their nuclei. This tendency is not very pronounced in the case of NGC 1023, type SBO. The bars of galaxies of types SBO and SBa (NGC 936, 1023) are redder in color than the bars of type SBb galaxies (NGC 7479, 7723). A variation in color is observed along the bars of SBb galaxies, while for galaxies of types SBO and SBa this effect is not observed. The differences noted are assumed to be caused by the increasingly important role of the flat component in the bars of SBb galaxies.

Vorontsov-Vel'yaminov, B. A.
THE MORPHOLOGY OF GALAXIES. I. THE NUCLEUS OF THE SPIRAL GALAXY M 33 (Morfologiya Galaktik. 1. Yadro Spiral'noy Galaktiki M33) tr. by M. Slade. [1959] [13]p. (foreign text included) 3 refs. Trans. no. 4224.
Order from LC or SLA mi$2.40, ph$3.30 59-19606

Trans. of Astronomicheskiy Zhurnal (USSR) 1956, v. 33, no. 1, p. 14-19.

BEHAVIORAL SCIENCES

Personnel and Training

Konyushenko, I., Sazhin, N., and Tsatsorin, N.
TANK COMPANY IN THE ATTACK. 24 Sep 59, 15p. (chart omitted). JPRS: L-995-N.
Order from OTS $0.50 59-13898

Trans. of Voyennyy Vestnik (USSR) 1959 [v. 39] no. 6, p. 35-44.

Recommendations are presented on the organization and conduct of tactical training.

THE USE OF PSYCHOTECHNICAL TESTS FOR THE SELECTION OF TELEPHONE OPERATORS. [1959] 2p. (7 figs. omitted).
Order from SLA mi$1.80, ph$1.80 60-10753

Trans. of J[ourna]l [de] Télégraphie (France) 1930, v. 54, Nov, p. 306-309.

Psychology

Giese, Fritz.
FUNCTIONING OF THE WILL [AND] ATTENTION. [1959] 9p.
Order from SLA mi$1.80, ph$1.80 60-10825

Trans. of mono. Handbook of Psychotechnical Suitability Tests, Halle, a.s, 1925.

Various types of apparatus for psychomotor tests are described and evaluated.

Henze, Reinhold.
EXPERIMENTAL INVESTIGATIONS ON THE PHENOMENOLOGY OF THE SPEED OF SPEECH (Experimentelle Untersuchungen zur Phänomenologie der Sprechgeschwindigkeit) tr. by W. H. Everhard. 24 Mar 59, 41p. (figs. illus. refs. omitted).
Order from LC or SLA mi$3.30, ph$7.80 59-14574

Trans. of Z[eitschrift für] Exper[imentelle und] Angew[andte] Psychol[ogie] (West Germany) 1953, v. 1, p. 214-241.

Ulich, Eberhard.
NEW EXPERIENCES WITH THE PAULI-TEST (Neue Erfahrungen mit dem Pauli-Test). [1959] [27]p. 12 refs.
Order from SLA mi$2.70, ph$4.80 59-20880

Trans. of Zeitschrift für Experimentelle und Angewandte Psychologie (West Germany) 1958, v. 5, no. 1, p. 108-126.

BIOLOGICAL SCIENCES

PROCEEDINGS OF THE ACADEMY OF SCIENCES OF THE USSR. GEOLOGICAL SCIENCES SECTIONS, 1958, VOL. 123, NOS. 1-6, P. 885-1101. 1960, 1v.
Order from CB $40.00, $200.00/year

Trans. of Akademiya Nauk SSSR. Doklady, 1958, v. 123, no. 1, p. 137-166ff; no. 2, p. 266-269ff and 339-361ff; no. 3, p. 440-443ff and 513-539ff; no. 4, p. 655ff and 737-744ff; no. 5, p. 907-917ff; no. 6, p. 1006-1010ff and 1081-1108ff.

Guilleminet, et al.
[FREEZE DRYING IN A BONE BANK] BIBLIOGRAPHY (La Cryodessication des Os de Banque.) 29 Dec 58, 3p. 20 refs.
Order from LC or SLA mi$1.80, ph$1.80 59-12973

Trans. of Rev[ue de] Chir[urgie] Orthop[edique et Reparatrice de l'Appareil Moteur] (France) 1957, v. 43, nos. 5-6, p. 465, Bibliography.

Kobrinskiy, A. Ye.
THE USE OF BIOCURRENTS FOR CONTROL PURPOSES. 24 Nov 59, 9p. 9 refs. JPRS: 2030-N.
Order from OTS $0.50 60-11083

Trans. of Akademiya Nauk SSSR. O[tdeleniye] T[ekhnicheskikh Nauk]. Izvestiya: Energetika i Avtomatika, 1959, no. 3, p. 151-154.

Anatomy and Physiology

PROBLEMS OF HEMATOLOGY AND BLOOD TRANSFUSION, 1959, VOL. 4, NO. 5. Dec 59, 76p.
Order from PP $30.00/year

Trans. of Problemy Gematologii i Perelivaniya Krovi (USSR) 1959, v. 4, no. 5, p. 3-57.

/ Below, F., Kroebel, W., and Springer, H.
RESULTS OF INVESTIGATIONS OF THE RECOGNIZABILITY OF SMALL DETAILS ON A TELEVISION SCREEN. Nov 59, 28p. 12 refs.
Order from SLA mi$2.70, ph$4.80 60-14075

Trans. of Zeitschrift für Angewandte Physik (West Germany) 1958, v. 10, no. 6, p. 277-285.

The present paper describes a test method, by means of which it is possible to examine the clarity of detail objectively with a reproducible result on a television screen. These investigations are based on the use of a test method with the Landolt ring employed as criterion of vision in neurophysiology and ophthalmology. The preparation of the test image as a micro-diapositive with sufficient precision in regard to geometry and contrast is described. The experiments were carried out with several observers on a flying spot scanner for diapositives and a video-frequency control receiver. As a result of the experiments the clarity of detail is obtained, expressed by the relation between number of errors and size of object. The experiments were carried out with the so-called coarse contrast as parameter for two distances of observation. The influence of band limitations in the electrical transmission path was investigated. The method seems convenient for determining quantitatively the effects of band limitations, noise level, building-up transients, etc. on the clarity of detail and for obtaining from the results tolerance data for designing electrical transmission installations on the basis of objective evaluations. (Author)

Berger, Curt and Buchthal, Fritz.
FORM PERCEPTION AND FUNCTION OF THE FOVEA (Formwahrnehmung und Funktion der Fovea) tr. by P. Hajdu. 24 Feb 59, 20p. (1 fig. omitted).
Order from LC or SLA mi$2.40, ph$3.30 59-14241

Trans. of Skand[inavisches] Archiv für Physiol[ogie] (Germany) 1938, v. 79, Suppl. no. 14, p. 15-26.

Georgiyev, O.
GETTING READY FOR OUTER SPACE (Sobirayemaya v Kosmos). 30 Oct 59 [4]p. AF 1256248.
Order from LC or SLA mi$1.80, ph$1.80 60-13191

Trans. from Sovetskiy Soyuz (USSR) 1959, no. 10, p. 12-14.

Ginzburg, V. V.
THE HISTORY OF THE CHAIR OF NORMAL ANATOMY OF THE MILITARY MEDICAL ACADEMY IMENI S. M. KIROV (160TH ANNIVERSARY OF THE ACADEMY). 24 Nov 59, 16p. JPRS: L-1952-D.
Order from OTS $0.50 59-31046

Trans. (including summary trans. p. 90-95) of Arkhiv Anatomii, Gistologii i Embriologii (USSR) 1959 [v. 36] no. 1, p. 90-98.

Matzker, Joseph.
ATTEMPT AT EXPLANATION OF DIRECTIONAL HEARING ON THE BASIS OF VERY FINE TIME-DIFFERENCE REGISTRATION (Versuch einer Erklärung des Richtungshörens aud Grund Feinster Zeitunterschiedsregistrierungen) ed. by Charles Lightfoot. Nov 59, 15p. 22 refs. No. 12.
Order from SLA mi$2.40, ph$3.30 60-14082

Trans. of Acta Oto-Laryngologica (Sweden) 1958, v. 49, no. 6, p. 483-494.

An attempt is made to explain the existence of a directional perception in binaural hearing of slight time differences as resulting from centrifugally coursing inhibitory impulses in the auditory pathways of the brain stem. These centrifugal pathways have already been demonstrated anatomically as well as electrophysiologically. A switching model developed by us allows a detailed analysis of the psychoacoustic phenomon of directional hearing using very small, artificially produced time differences. From this example, the great importance of the central inhibitory pathways in the organized completion of the hearing act becomes obvious. Finally, we refer to the inhibitory pathways which are present in very similar form in the eye. (Author's abstract)

Morin, Georges, Gastaut, Henri, and Corriol, Jacques.
ELECTROENCEPHALOGRAPHIC STUDY OF RHYTHMS INDUCED BY RHYTHMIC INTERMITTENT LIGHT STIMULATION IN MAN (Etude Electroencephalographique des Rythmes Induits par la Stimulation Lumineuse Intermittente Rythmee Chez l'Homme). [1959] [46]p. 28 refs. F-TS-9575/V.
Order from LC or SLA mi$3.30, ph$7.80 59-16053

Trans. of Journal de Physiologie (France) 1948, v. 40, p. 199-222.

Rüttner, J. R. and Vogel, A.
ELECTRONMICROSCOPIC STUDIES ON THE SINUSOIDAL WALL OF THE LIVER (Elektronmikroskopische Untersuchungen an der Lebersinusoid) tr. by P. Hajdu. 30 July 59, 8p. (6 figs. omitted) 12 refs.
Order from LC or SLA mi$1.80, ph$1.80 59-18775

Trans. of Deutsche Gesellschaft für Pathologie. Verhandlungen (West Germany) 1958 [v. 41] p. 314-320.

Biochemistry

Barbieri, A. de and Zamboni, A.
INVESTIGATION OF THE PITUITARY ADRENOCORTICOTROPHIC HORMONE. [1959] 9p. 10 refs.
Order from SLA mi$1.80, ph$1.80 60-10877

Trans. in manuscript of Soc[ietà] It[aliana] di Biol[ogia] Speriment[ale]. Boll[ettino] 1951, v. 27, p. 430-433.

Bourland, E., Pacht, M. and Graber, P.
PHOSPHORYLATION OF AMINO ACIDS AND OF GELATIN BY MEANS OF MONOPHENYLPHOSPHODICHLORIDE. [1959] 3p. 2 refs.
Order from SLA mi$1.80, ph$1.80 60-10683

Trans. in manuscript of International Congress of Biochemistry (no. 1) Cambridge, Eng, 1949. Abstracts of Communications no. 222-224, p. 115-116.

Brachet, J.
THE ROLE OF RIBONUCLEIC ACID IN THE CELL (Le Rôle de l'Acide Ribonucléique dans la Cellule) tr. by P. V. DePorte. 21 July 59, 49p. (146 ref. omitted). Order from LC or SLA mi$3.30, ph$7.80 59-18465

Trans. of Société de Chimie Biologique. Bulletin (France) 1958, v. 40, no. 11, p. 1387-1413.

Burtin, P. and others.
IMMUNOCHEMICAL AND IMMUNO-ELECTROPHORETIC STUDIES OF MACROGLOBULINEMIAS (Études Immunochimiques et Immuno-electrophoretiques des Macroglobulinémies) tr. by Wilfred Grosjean. 11 Dec 58, 38p. (16 figs. omitted) 27 refs. Order from LC or SLA mi$3.00, ph$6.30 59-12411

Trans. of Rev[ue] Franc[ais] d'Études Clin[iques] et Biol[ogiques] (France) 1957, v. 2, no. 2, p. 161-177.

Fischer, Werner and Hahn, Fritz
STRIKING WEAKNESS OF THE GROUP-SPECIFIC CAPABILITY OF REACTION IN AN ADULT (Ueber Auffallende Schwache der Gruppenspezifischen Reaktionsfähigkeit bei Einem Erwachsenen) tr. by P. Pallamary. 8 Jan 59, 20p. 4 refs. Order from LC or SLA mi$2.40, ph$3.30 59-12675

Trans. of Zeitschr[ift] f[ür] Immunitätsforschung [und Experimentelle Therapie] (West Germany) 1935, v. 84, p. 177-188.

Hessel, Georg.
RENIN. [1959] 17p. (10 illus. 10 tables omitted) 20 refs.
Order from SLA mi$2.40, ph$3.30 60-10690

Trans. of Klinische Wochenschrift (Germany) 1938, v. 17 [no. 24] p. 843-849.

Kaiser, E. and Pantlitschvo, M.
DETERMINATION OF THE SERUM ANTITRYPSIN TITER. [1959] 10p. (1 fig. 40 refs. 1 table omitted). Order from LC or SLA mi$1.80, ph$1.80 60-10855

Trans. in manuscript of Klin[icheskaya] Med[itsina] (USSR) 1953 [v. 31] no. 8, p. 118-184.

Marquardt, Peter and Helder, Liselotte.
THE FORMATION IN THE BLOOD OF A SUBSTANCE AFFECTING THE CIRCULATION (FRUHGIFT) (die Bildung einer auf dem Kreislauf Wirkenden Substanz in Blut (Fruhgift)) tr. by P. Hajdu. 8 Sep 59, 17p. (11 figs. omitted) 30 refs. Order from LC or SLA mi$2.40, ph$3.30 59-19271

Trans. of Arzneimittel-Forschung (West Germany) 1958, v. 8, no. 8, p. 481-484.

Morel, J. and Graber, P.
THE GROUPINGS IN GELATIN RESPONSIBLE FOR GELATION, tr. by P. M. M. 7 Jan 50, 3p. 2 refs. Order from SLA mi$1.80, ph$1.80 60-10684

Trans. in manuscript of International Congress of Biochemistry (no. 1) Cambridge, Eng, 1949, Abstracts of Communications no. 216-[224] p. 108-109.

Nakhmanovich, B. M. and Kochkina, L. V.
THE FERMENTABILITY OF RAFFINOSE BY YEAST RACE "YA" DURING ALCOHOLIC FERMENTATION OF MOLASSES. [1959] [9]p. M 210. Order from LC or SLA mi$1.80, ph$1.80 59-19103

Trans. of [Biokhimiya] (USSR) 1951, v. 16, no. 6, p. 522ff.

Samsonov, G. V. and Ponomareva, R. B.
PROTEIN SORPTION BY ION-EXCHANGE RESINS. 22 Sep 59, 7p. 6 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-10949

Trans. of *Biokhimiya (USSR) 1959, v. 24, no. 1, p. 63-66.

Protein sorption by ion-exchange resins is effected by the same mechanism as that of more simple bipolar ions, such as amino acids and peptides. Some proteins are similar to amino acids in their sorption while others in which the distance between the carboxyl and amino groups is great are sorbed like peptides. Thus, protein sorption indicates the distance between the amino and carboxyl groups on the protein globule. (Authors' conclusions)

Tanaka, Sadahei.
EFFECTS OF VITAMIN B_{12} AND SOME BIOGENIC AMINES ON THE CONVERSION OF PTEROYLGLUTAMIC ACID TO CITROVORUM FACTOR BY STR. FAECALIS, tr. by William Himel. 15 Sep 59, 23p. (5 figs. omitted) 17 refs.
Order from LC or SLA mi$2.70, ph$4.80 59-19433

Trans. of Nihon Saikingaku Zasshi (Japan) 1956, v. 11, no. 10, p. 879-884.

General Biology

BIOPHYSICS, 1958, VOL. 3, NO. 6, P. 607-710. Nov 59, 1v.
Order from PP $30.00/year

Trans. of Biofizika (USSR) 1958, v. 3, no. 6, p. 633-754.

BULLETIN OF EXPERIMENTAL BIOLOGY AND MEDICINE, 1959, VOL. 47, NO. 6, P. 653-790. 1960, 1v.
Order from CB $10.00, $20.00/year

Trans. of Byulleten' Eksperimental'noy Biologii i Meditsiny (USSR) 1959, v. 47, no. 6, p. 3-[110].

Arbuzov, B. A.
ORGANIC PHOSPHORUS COMPOUNDS. [1959] 21p. Trans. A-1050.
Order from LC or SLA mi$2.70, ph$4.80 59-22307

Trans. of mono. Fosfororganicheskiye Soyedineniya, Moscow, 1959, 16p.

Guseva, K. A.
FRESHWATER LIFE OF THE USSR, tr. by J. W. G. Lund. [1959] [6]p. 1 ref. M536.
Order from LC or SLA mi$1.80, ph$1.80 59-22707

Trans. of mono. Zhizn' Presnykh Vod SSSR, 1956, v. 4, chap. 35, pt. 1, p. 149-151.

Lepeshinskaya, O. B. and Kosorotova, M. V.
THE PHENOMENA OF CRYSTALLISATION IN LIVING MATTER: A POPULAR SCIENTIFIC ARTICLE [1959] [10]p. TL 880; M207.
Order from LC or SLA mi$1.80, ph$1.80 59-19101

Trans. from Nauka i Zhizn' (USSR) 1946 [v. 13] no. 7.

Zhukov-Verezhnikov, N. N. and Lysogorov, N. V.
MICROORGANISMS AND HEREDITY. 20 Nov 59, 12p. JPRS: L-1089-N.
Order from OTS $0.50 60-11055

Trans. of Nauka i Zhizn' (USSR) 1959 [v. 26] no. 8, p. 9-14.

The opponents of Michurin's teachings have made attempts, on the basis of recent findings relating to the transmission of hereditary characteristics and DNA, to justify Weismann's and Morgan's genetic theories. The expressed aim of this article is to indicate that such attempts are out of order.

Microbiology

PROBLEMS OF VIROLOGY, 1958, VOL. 3, NOS. 5/6, P. 279-414. Dec 59, 1v.
Order from PP $20.00/year

Trans. of Voprosy Virusologii (USSR) 1958, v. 3, nos. 5/6, p. 255-379.

PYCNODOTHIS STEVENS, tr. by F. H. B. 24 Apr 59 3p. 2 refs.
Order from LC or SLA mi$1.80, ph$1.80 59-16195

Trans. of Sydowia; Annales Mycologici (Austria) 1951, v. 5, no. 1/2, p. 196-197, item no. 24.

Kriss, A. E.
MARINE MICROBIOLOGY (DEEP-SEA). [1959] 87p. (17 figs. 2 tables omitted) 449 refs. Trans. A-1066.
Order from LC or SLA mi$4.80, ph$13.80 59-22321

Partial trans. (p. 3-8, 22-23, 226-227, 385-407, 408-411) of mono. Morskaya Mikrobiologiya (Glubokovodnaya) Moscow, 1959, 455p.

Kuhn, Richard and Ludolphy, Erich.
ON NAPHTHOTRIAZOLE SALTS AS REDUCTION INDICATORS AND ON A REAGENT FOR COBALT (Über Naphtho-triazoliumsalze als Reduktionsindikatoren und über ein Reagens auf Kobalt) tr. by W. H. Everhardy. 25 Sep 59, 16p. (1 fig. omitted) 16 refs.
Order from LC or SLA mi$2.40, ph$3.30 59-19635

Trans. of [Justus] Liebigs Ann[alen der] Chem[ie] (West Germany) 1949, v. 564, p. 35-43.

Pathology

PROBLEMS OF ONCOLOGY, 1958, VOL. 4, NO. 5, P. 541-674. Dec 59, 1v.
Order from PP $30.00/year

Trans. of Voprosy Onkologii (USSR) 1958, v. 4, no. 5, p. 515-640.

PROBLEMS OF ONCOLOGY, 1959, VOL. 5, NO. 2. Dec 59, 151 p.
Order from PP $30.00/year

Trans. of Voprosy Onkologii (USSR) 1959, v. 5, no. 2, p. 131-256.

Antweiler, Hubert and Hirsch, Erich.
FURTHER ANIMAL EXPERIMENTS ON THE PROBLEM OF ANTIBODY FORMATION IN SILICOSIS (Weitere Tierexperimentelle Untersuchungen zum Problem der Antikörperbildung bei der Silikose) tr. by P. Hajdu. 6 Mar 59, 19p. (5 figs. refs. omitted).
Order from LC or SLA mi$2.40, ph$3.30 59-14328

Trans. of Zeitschrift für Immunitätsforschung und Experimentelle Therapie (West Germany) 1957, v. 114, p. 378-392.

Quarts coated in vitro with homologous serum albumin, when administered parenterally to guinea pigs, rabbits and rats, leads to the formation of antibodies which can be detected by in vitro agglutination of the quartz particles used in the presence of antiserum. Quartz modifications cristobalite and tridymite as well as quartz glass are also able to form such antibodies. The antibodies, according to the experimental arrangement, are homologous isoantibodies. They are not highly specific, since for example antibodies produced with cristobalite or tridymite also react with quartz antigen. If the genuine substances are used for sensitization, then antibody formation takes place later and can therefore only be traced after some delay. After injection of the antigen into the lungs, free antibodies can only be found later and in smaller amounts than with parenteral application. Whether dusts free of silicic acid are also able to modify organic albumin in such a way that it obtains an antigen character remains to be shown by further investigations.

Blokhin, N. N. and Pogosyants, Ye. Ye., eds.
PROBLEMS OF ETIOLOGY AND PATHOGENESIS OF TUMORS. [1959] [364]p. 420 refs.
Order from LC or SLA mi$1.10, ph$41.10 60-13154

Trans. of unidentified Russian mono. pub. by Academy of Sciences, USSR, Inst. of Experimental Pathology and Therapy of Cancer, 1958.

Papers assembled in honor of A. D. Timofeyevskiy and published as a Festschrift on the occasion of his 70th birthday.

Boels, W. and Gyselen, A.
PRIMARY LYMPHOSARCOMA OF THE LUNG (Lymphosarcome Primitif du Poumon). tr. by Tatiana Boldyreff. 6 Oct 59, 10p. (7 figs. omitted).
Order from LC or SLA mi$1.80, ph$1.80 59-18137

Trans. of Acta Clin[ica] Belg[ica] 1957, v. 12, no. 2, p. 195-204.

Eggers, H. and Wöckel, W.
CLINICAL AND PATHOLOGICAL ASPECTS OF PYOCYANEOUS INFECTIONS IN PREMATURE AND FULL-TERM NEONATES (Zur Klinik und Pathologie der Pyocyaneusinfektion bei Frühgeborenen und Säuglingen) tr. by P. Hajdu. 26 Feb 59, 29p.
Order from LC or SLA mi$2.70, ph$4.80 59-14240

Trans. of Deutsche Medizinische Wochenschrift (West Germany) 1958, v. 83, no. 5, p. 174-180.

Föllmer, W.
REPORTS FROM ABROAD: PROBLEMS OF ORGANIZATION OF PUBLIC HEALTH IN LIBYA (Berichte aus dem Ausland: Probleme der Gesundheitsorganisation in Libyen) tr. by Claudius F. Mayer. [1959] [11]p. H-2941.
Order from LC or SLA mi$2.40, ph$3.30 59-16155

Trans. of Deutsche Medizinische Wochenschrift (West Germany) 1958, v. 83, no. 43, p. 1908-1911.

Merlo, P. and Tortori Donati, B.
FIRST RESULTS OF A NEW TREATMENT FOR CHRONIC ARTHROPATHIES. [1959] 2p.
Order from SLA mi$1.80, ph$1.80 60-10821

Trans. of Società Medico-Chirurgica di Pisa. Bolletino (Italy) 1946, v. 12, p. 1-3.

Nicotinic acid and vitamin D were administered simultaneously.

Mussio Fournier, J. C., Conti, O. and others.
THERAPEUTIC ACTION OF PITUITARY EXTRACTS IN THE TREATMENT OF VARIOUS OCULAR DISEASES. [1959] 24p. 17 refs.
Order from SLA mi$2.70, ph$4.80 60-10833

Trans. in manuscript of Dia Medico Uruguay, 1949, v. 16, p. 317-325.

Propst, A.
ON THE ETIOLOGY OF ESSENTIAL PULMONARY HEMOSIDEROSIS (Zur Atiologie der Essentiellen Lungenhemosiderose) tr. by P. Hajdu. 26 June 59, [10]p. (4 figs. omitted) 9 refs.
Order from LC or SLA mi$1.80, ph$1.80 59-18119

Trans. of Deutsche Gesellschaft für Pathologie. (West Germany) 1954 [v. 38] p. 314-320.

Traub, Erich.
THE INFLUENCE OF LATENT CHORIOMENINGITIS INFECTION ON THE DEVELOPMENT OF LYMPHOMATOSIS IN WHITE MICE (Über den Einfluss der Latenten Choriomeningitis-Infektion auf die Entstehung der Lymphomatose bei Weissen Mäusen) tr. by H. M. Warfield. 2 June 59, 22p. (1 fig. omitted) 8 refs.
Order from LC or SLA mi$2.70, ph$4.80 59-16655

Trans. of Zentralblatt für Bakteriologie, [Parasitenkunde und Infektionskrankheiten] (Germany) 1941, v. 147, no. 1, p. 16-25.

In order to investigate the correlations existing between latent choriomeningitis and lymphomatosis, an experiment was set up in which two strictly isolated groups of mice, one composed of 119 infected animals, and the other a control group of 128 virus-free animals, were kept under constant observation until they had reached the age of one year. The experimental results, as well as the tropism of the choriomeningitis virus, justify the conclusion that a latent and protracted infection with this virus promotes lymphomatosis. Before lymphomatosis can develop, however, there must be at least one more factor, as yet unknown. The action of the choriomeningitis virus is seen as a chronic irritation of the lymphatic tissue cells which is comparable to the action of chemical carcinogens producing experimental mouse cancer.

Pharmacology and Toxicology

REFERATIVNYY ZHURNAL. BIOLOGIYA (USSR) 1959, NO. 6 (Soviet Abstracts. Biology). 5 Feb 60, 39p. JPRS: 2228-N.
Order from OTS $1.00 60-11280

Contents:
Section V. Pharmacology and Toxicology. Abstracts 27866-28020.

Complete translations of those entries which were originally published in the Sino-Soviet bloc and in Yugoslavia.

Andreyev, S. V., Vadkovskaya, Yu. D., and Glebova, M. S.
THE INFLUENCE OF PREPARATIONS OF RENIN ON BLOOD PRESSURE UNDER EXPERIMENTAL CONDITIONS. [1959] [31]p. (2 figs. omitted) 29 refs.
Order from LC or SLA mi$3.00, ph$6.30 60-10106

Trans. of Akad[emiya] Med[itsinskikh] Nauk SSSR. Trudy, 1952, v. 20, p. 56-75.

Fernholz, E.
THE PREPARATION OF CORPUS LUTEUM HORMONE FROM STIGMASTEREL. 10 Mar 41, 7p.
Order from SLA mi$1.80, ph$1.80 60-10822

Trans. of [Chemische Berichte] (West Germany) 1934 v. 67[B] p. 2027-2031.

Goshtyalek, Z., Yanechek, Yu. and others.
THE EFFECT OF INTERRUPTIONS IN AERATION, ORTHOPHOSPHATES AND BENZYLTHIOCYANATE ON THE FORMATION OF CHLOROTETRACYCLINE. 10 Sep 59, 5p. 9 refs.
Order from SLA mi$1.80, ph$1.80 60-10956

Trans. of Antibiotiki (USSR) 1959, v. 4, no. 1, p. 37-39.

Gualdoni, G. C.
SOLUTIONS OF CALCIUM GLUCONATE FOR HYPODERMIC USE AND THEIR ANALYSES. [1959] 3p. 1 ref.
Order from SLA mi$1.80, ph$1.80 60-10826

Trans. of Bolletino Chimico-Farmaceutico (Italy) 1932, v. 71, no. 2, p. 45-47.

Guillot, Marcel.
THE STERILIZATION OF INJECTABLE SOLUTIONS. [1959] 3p.
Order from SLA mi$1.80, ph$1.80 60-10857

Partial trans. (p. 356-357) in manuscript of Journal of Pharmacy and Pharmacology (Gt. Brit.) 1950, v. 2, p. 345-360.

Hohensee, Friedrich.
ON THE PHARMACOLOGICAL AND PHYSIOLOGICAL EFFECT OF ε-CAPROLACTAM. 24 Feb 54. [9]p. 5 refs.
Order from SLA mi$1.80, ph$1.80 60-10773

Trans. of Faserforschung und Textiltechnik (Germany) 1951, v. 2, no. 8, p. 299-303.

Izmaylov, N. A. and Karapet'yan, Sh. A.
THE LEAVES OF THE CITRUS AS A SOURCE OF VITAMIN C. [1959] 5p. 8 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-10885

Trans. of Pishchevaya Promyshlennost' (USSR) 1945, no. 1, p. 24-26.

Jacobi, J.
ACUTE, INDUSTRIAL ACETYLENE POISONING. [1959] 4p.
Order from MDF $2.00 MDF J-101

Trans. of Samm[lung von] Vergiftungsfällen [Archiv für Toxicologie] (Germany) 1934, v. 5, p. 57-60.

Landes, G. and Kummer, P.
REGULATING BEHAVIOR OF EXPERIMENTAL HYPERTENSIN-INDUCED PRESSURE IN COMPARISON TO HYPERTENSION (Das Regulative Verhalten des Experimentellen Hypertensin-hochdrucks im Vergleich zur Hypertension). [1959] 7p. 4 refs.
Order from SLA mi$1.80, ph$1.80 60-14095

Trans. of Münch[ener] Med[izinische] W[ochen]schr[ift] (West Germany) 1959, v. 101 [no. 5] p. 184-186.

We must conclude from our experiments that in experimental hypertension induced by hypertensin the very obvious vasoconstricting effect has only a secondary significance for regulation. Hypertensin must have its point of attack at a higher regulatory center. The pressor principle of hypertensin is so potent here that it cannot be influenced by artificial vasodilatation. Moreover we found that it is largely independent of the initial situation of vascular innervation. Experimental hypertension due to hypertensin thus has not only a mechanical but also a regulative similarity to renal hypertension in man. (Authors' conclusions)

Lapresle, C. and Grabar, P.
COMPARATIVE STUDY OF BI-DIAZOTIZED BENZIDINE AND TANNIC ACID IN HEMAGGLUTINATION REACTIONS OBTAINED WITH INSULIN PREPARATION AND SERUMS OF DIABETICS TREATED WITH INSULIN (Etude Comparative de la Benzidine Bi-Azotée et de l'Acide Tannique dans les Réactions d'Hémagglutination Obtenues avec des Préparations d'Insuline et des Sérums de Diabétiques Traités par l'Insuline) tr. by Wilfred Grosjean. 25 Nov 58, 5p. (7 refs. omitted)
Order from LC or SLA mi$1.80, ph$1.80 59-12290

Trans. of Rev[ue] Franc[ais] d'Études Cliniques et Biologiques (France) 1958, v. 3, no. 1, p. 57-58.

Lapresle, Cl. and Grabar, P.
DEMONSTRATION OF AN ANTIGENIC IMPURITY IN PREPARATIONS OF INSULIN AND CORRESPONDING ANTIBODIES IN THE SERUM OF INSULIN-TREATED DIABETICS (Mise en Évidence d'une Impureté Antigénique dans des Préparations d'Insuline et d'Anticorps Correspondants dans le Sérum de Diabétiques Traités par l'Insuline) tr. by Wilfred Grosjean. 21 Nov 58, 35p. (2 figs. omitted).
Order from LC or SLA mi$3.00, ph$6.30 59-12292

Trans. of Rev[ue] Franc[ais] d'Études Clin[iques] et Biol[ogiques] (France) 1957, v. 2, no. 10, p. 1025-1037.

Laur, O.
THE RESULTS OF TAUROLIN TREATMENT IN SCARLET FEVER. [1959] 9p. 6 refs.
Order from SLA mi$1.80, ph$1.80 60-10780

Trans. in manuscript of Fortschritte der Therapie (Germany) 1939, v. 15, p. 540-543.

Clinical experience in the use of taurolin (bile acid extract) in the treatment of 23 cases of scarlet fever indicates that taurolin does not act as a specific therapeutic agent for this disease. It was not possible to abort the infection in any case. Fewer complications occurred, however, suggesting that the course of the disease may have been altered favorably. The thermal reactions of the second attack of the disease were overcome quickly with taurolin, which is considered to be useful in severe and complicated cases.

Peretti, G[iuseppe], Reale, L[orio] and Cioglia, L[orenzo].
THE DISTRIBUTION IN THE ORGANISM OF FATS INJECTED DIRECTLY INTO THE BLOODSTREAM. [1959] 3p.
Order from SLA mi$1.80, ph$1.80 60-10849

Partial trans. (conclusions) in manuscript of Riv[ista] di Pat[ologia] Sper[imentale] (Italy) 1932, v. 7, no. 7] p. 73-98.

Scheffer, L.
EXTENT AND DURATION OF THE FAT-STORAGE IN THE LUNGS. Communication no. 2 on About Emulsion Therapy. [1959] 2p.
Order from SLA mi$1.80, ph$1.80 60-10840

Partial trans. (summary, p. 342) in manuscript of [Naunyn-Schmiedeberg's] Archiv fur Experimentelle Pathologie und Pharmakologie (Germany) 1928, v. 124, p. 334-342.

Takemoto, Tsunematsu and Meguri, Haruo.
CHEMISTRY OF TOXIC COMPONENTS OF ERICACEAE, tr. by W. Himel. 31 July 59 [20]p. 48 refs.
Order from LC or SLA mi$2.40, ph$3.30 59-18574

Trans. of Yakugaku Kenkyu (Japan) 1957, v. 29, no. 6, p. 588-596.

Verzár, F. and Laszt, L.
VITAMIN B_2 AND ADRENOCORTICAL HORMONE. [1959] 10p. 6 refs.
Order from SLA mi$1.80, ph$1.80 60-10854

Trans. of Enzymologia (Netherlands) 1937, v. 3, p. 16-20.

The feed of young adrenalectomized rats, which are to be used for assay of adrenocortical preparations, should not contain any yeast or other substances with flavin-phosphoric acid, as otherwise a large number of animals would survive even without the cortical hormone.

Radiobiology

MATERIALS ON THE TOXICOLOGY OF RADIOACTIVE SUBSTANCES. PT. I. STRONTIUM, CESIUM, RUTHENIUM AND RADON, ed. by A. A. Letavet and E. B. Kurlyandskaya. Nov 59 [238]p. 110 refs.
Order from OTS $2.50 AEC-tr-3794

Trans. of mono. Materialy po Toksikologii Radioaktifnykh Veshchestv, vyp. 1: Strontsii, Tsezii, Rutenii i Radon, Moscow, 1957.

Gorizontov, P. D., ed.
PATHOLOGIC PHYSIOLOGY OF ACUTE RADIATION SICKNESS (EXPERIMENTAL MATERIALS ON BIOLOGICAL ACTION OF EXTERNAL IONIZING RADIATIONS) tr. by Lydia Venters. Aug 59, 324p. 413 refs.
Order from OTS $3.50 AEC-tr-3729

Trans. of mono. Patologicheskaya Fiziologiya Ostroy Luchevoy Bolezny (Eksperimental'nyye Materialy po Biologicheskomi Deystviyu Vneshnikh Ioniziruyushchikh Izluchenii) Moscow, 1958.

The topics discussed in this review, which is based on an extensive bibliography including 213 Soviet references, are as follows: General problems of the pathologic physiology of radiation sickness; Changes in the nervous system in radiation sickness; Humoral factors in pathogenesis of radiation sickness; Metabolism in radiation sickness; Changes in hemapoiesis in radiation sickness; Hemorrhagic syndrome in radiation sickness; Reactivity of the organism of animals in radiation sickness.

Klemparskaya, N. N., Alekseyeva, O. G. and others.
PROBLEMS OF INFECTION, IMMUNITY AND ALLERGY IN ACUTE RADIATION SICKNESS, tr. by Lydia Venters. Oct 59, 133p. 326 refs.
Order from OTS $1.50 AEC-tr-3767

Trans. of mono. Voprosy Infektsii, Immuniteta i Allergii pri Ostroy Luchevoy Bolezny, Moscow, 1958.

This monograph reviews data from recent literature (without reference to widely known published journals) and includes 179 Soviet references in its extensive bibliography. Results of investigations undertaken by the authors and their co-workers are reported. Special attention is paid to possible practical use of the data obtained. The work is divided under the following chapter headings: Change in automicroflora and microinvasion of the irradiated organism; State of natural immunity in an irradiated organism; Induced immunization in radiation effect. Effect of ionizing radiation on the development and preservation of active immunity. State of passive immunity in irradiated animals; Peculiarities in allergic reactivity of irradiated organisms; Infectious diseases in radiation sickness.

Zhuravlev, A. I. and Ganassi, Ye. E.
CHAIN REACTIONS IN LIVER LIPIDS AFTER RADIATION INJURY. 24 Nov 59, 9p. 21 refs.
JPRS: L-1094-N.
Order from OTS $0.50 60-11062

Trans. of Meditsinskaya Radiologiya (USSR) 1959 [v. 4] no. 8, p. 32-37.

Zoology

Berval'd, D. A. and Romanchyva, O. D.
CONCERNING THE SUMMER RESTRICTIONS IN THE ARAL SEA (O Letnem Zaprete v Aral'skom More). 30 Oct 59, 6p. Trans. V-1502.
Order from LC or SLA mi$1.80, ph$1.80 59-22305

Trans. of Rybnoye Khozyaystvo (USSR) 1957, v. 33, no. 6, p. 52-54.

Danelevskiy, N. N. and Radakov, D. V.
OBSERVATIONS ON THE REACTION OF BLACK SEA ANCHOVIES AND SOME OTHER FISHES TO ARTIFICIAL IRRITANTS, tr. by Donald A. Thomson. 31 Aug 59, 8p. (6 figs. omitted).
Order from LC or SLA mi$1.80, ph$1.80 59-22363

Trans. of [Vsesoyuznyy Nauchno-Issledovatel'skiy Institut Morskogo Rybnogo Khozyaystva i Okeanografii. Trudy] (USSR) 1958, v. 36, p. 25-32.

The reaction of Black Sea fish to various irritants (motion of divers, sound, lowering of mechanized cast net) as observed by underwater television or by echo-sounding is described.

Semko, R. S.
THE INFLUENCE OF PREDATION ON NUMBERS OF YOUNG SALMON (Vliianiye Khishchnikov na Chislennost' Molodi Lososevykh) tr. by William L. Sheridan. 30 Mar 59 [3]p. Trans. no. 24.
Order from LC or SLA mi$1.80, ph$1.80 59-16372

Trans. of Trudy Problemnykh i Tematicheskikh Soveshchanii (USSR) 1956, v. 6, p. 148-149.

Tikhonov, V. N.
MIGRATION AND BEHAVIOR OF LARGE SCAD IN THE BLACK SEA, tr. by Donald A. Thomson. 25 Sep 59, 16p. 34 refs.
Order from LC or SLA mi$2.40, ph$3.30 59-22354

Trans. of [Vsesoyuznyy Nauchno-Issledovatel'skiy Institut Morskogo Rybnogo Khozyaystva i Okeanografii. Trudy] (USSR) 1958, v. 36, p. 52-61.

Zusser, S. G.
THE DAILY VERTICAL MIGRATION OF PELAGIC FISH, tr. by Donald A. Thomson. 1959, 32p. (11 figs. 2 tables omitted) 78 refs.
Order from LC or SLA mi$3.00, ph$6.30 60-13264

Trans. of [Vsesoyuznyy Nauchno-Issledovatel'skiy Institut Morskogo Rybnogo Khozyaystva i Okeanografii. Trudy] (USSR) 1958, v. 36, p. 83-105.

CHEMISTRY

BULLETIN OF THE ACADEMY OF SCIENCES OF THE USSR. DIVISION OF CHEMICAL SCIENCE, 1959, NO. 1, P. 1-172. 1959, 1v.
Order from CB $5.00, $45.00/year

Trans. of Akademiya Nauk SSSR. Otdeleniye Khimicheskikh Nauk. Izvestiya, 1959, no. 1, p. 3-[181].

JOURNAL OF APPLIED CHEMISTRY OF THE USSR, 1959, VOL. 32, NO. 1, P. 1-251. 1959, 1v.
Order from CB $7.50, $60.00/year

Trans. of Zhurnal Prikladnoy Khimii (USSR) 1959, v. 32, no. 1, p. 3-[238].

JOURNAL OF APPLIED CHEMISTRY OF THE USSR, 1959, VOL. 32, NO. 2, P. 253-499. 1960, 1v.
Order from CB $7.50, $60.00/year

Trans. of Zhurnal Prikladnoy Khimii (USSR) 1959, v. 32, no. 2, p. 241-[469].

JOURNAL OF GENERAL CHEMISTRY OF THE USSR, 1958, VOL. 28, NO. 12, P. 3189-3454. 1960, lv.
Order from CB $10.00, $90.00/year

Trans. of Zhurnal Obshchey Khimii (USSR) 1958, v. 28, no. 12, p. 3157-[3345].

Analytical Chemistry

JOURNAL OF ANALYTICAL CHEMISTRY OF THE USSR, 1958, VOL. 13, NO. 6, P. 707-838. 1959, lv
Order from CB $20.00, $80.00/year

Trans. of Zhurnal Analiticheskoy Khimii (USSR) 1958, v. 13, no. 6, p. 627-[719].

Kulberg, L. M. and Cherkesov, A. I.
NEW METHOD FOR THE QUALITATIVE DETECTION AND QUANTITATIVE DETERMINATION OF TRACES OF HYDRAZINE. Apr 59 [12]p. 6 refs. Trans. U82; M504.
Order from LC or SLA mi$2.40, ph$3.30 59-22553

Trans. of Zh[urnal] Anal[iticheskoy] Khim[ii] (USSR) 1951, v. 6, no. 6, p. 364-370.

Remky, H.
PHOTOMETRIC EVALUATION OF NON-TRANSPARENT PAPER ELECTROPHEROGRAM (Die Photometrische Auswertung Nichttransparenter Papier-Elektropherogramme, tr. by Tatiana Boldyreff. 30 June 59, 5p. (2 figs. 1 table omitted).
Order from LC or SLA mi$1.80, ph$1.80 59-18486

Trans. of Klinische Wochenschrift (Germany) 1957, v. 35, no. 12, p. 635-636.

Skopintsev, B. A. and Krylova, L. P.
OPTICAL PROPERTIES OF THE ORGANIC SUBSTANCES FROM AQUEOUS HUMUS SURFACE WATERS, tr. by A. Murphy. [1959] [4]p. M542.
Order from LC or SLA mi$1.80, ph$1.80 59-22701

Trans. of Gidrokhim[icheskiye] Mat[erialy] (USSR) 1955, v. 23, p. 31-35.

A total of 44 waters from different sources were examined. Their coefficients of absorption of color, their organic matter content and permanganate oxidation in acid medium were determined. To remove suspended matter some samples were filtered through a sintered glass filter No. 4 covered with a layer of $BaSO_4$. Spectrophotometric determinations were only carried out on filtered water. Visual determination was sufficiently accurate as an expression of content of humic compounds in the water except at high concentrations. Coloration of filtered waters was about 80% of that filtered through paper. A nonlinear relationship between the optical density, coloration, and increase in organic matter content was observed, which points to a difference in the composition and properties of organic matter in these waters.

Inorganic Chemistry

Andreyev, V. V.
ON THE PRODUCTION OF AMMONIUM METAVANADATE FROM SODIUM VANADATES. [1959] 8p. 6 refs.
Order from MDF $4.00 MDF A-140

Trans. of *Zh[urnal] Neorg[anicheskoy] Khim[ii] (USSR) 1959, v. 4, no. 10, p. 2384-2389.

In producing ammonium metavanadate by the introduction of ammonium chloride in an aqueous solution of sodium vanadates, the precipitate being formed can contain not only ammonium chloride and sodium chloride as impurities but also sodium metavanadate and vanadic acid and polyvanadates. An investigation of the combined solubility of the appropriate salts permitted conditions to be found which would guarantee the production of pure ammonium metavanadate from sodium vanadates without losses. (Author)

Lebedinskiy, V. V. and Shenderetskaya, E. V.
SULPHITE AND AMMINO-SULPHITO COMPLEXES OF RHODIUM (Sul'fitnyye i Sul'fitoammiachnyye Soyedineniya Rodiya) tr. by J. W. Palmer. Oct 58 [12]p. 7 refs. Library Trans. no. 780; M 466.
Order from LC or SLA mi$2.40, ph$3.30 59-22533

Trans. of Zhurnal Neorganicheskoy Khimii (USSR) 1957, v. 2, no. 8, p. 1768-1774.

Ammonium sulphide and potassium pyrosulphite react with chlororhodic acid to give $(NH_4)_3[Rh(SO_3)_3] \cdot 2H_2O$ and $K_3[Rh(SO_3)_3] \cdot 2H_2O$ respectively. These react readily with ammonia to give salts containing the triamminotrisulphite anion: $[(NH_3)_3Rh(SO_3)_3]^{3-}$. The ammonium salt is too soluble to separate but the guanidine salt was obtained. In the anion $[Rh(SO_3)_3]^{3-}$, each sulphite-group occupies two coordination positions but there is an enormous disparity in the strength of the two bonds. The authors favor the view that one link is via sulphur and the other through oxygen. In contrast to sodium ions, potassium, ammonium and guanidinium ions do not enter the inner coordination sphere. (Royal Aircraft Establishment abstract)

Maleyna, A. A.
FIXATION OF PHOSPHATES BY DIFFERENT SOILS (Fiksatsiya Fosfatov Razlichnymi Pochvani) tr. by M. Slade. [1959] 9p. (foreign text included) 2 refs. Trans. no. 4203.
Order from LC or SLA mi$1.80, ph$1.80 59-19604

Trans. of Akademiya Nauk SSSR. Doklady, 1958, v. 118, no. 5, p. 1031-1033.

Organic Chemistry

Belenky, L. and Kazanskaya, M.
THE VATTING OF POLYCYCLOKETONE DYES, tr. by A. E. Stubbs. [1959] [13]p. TL 885; M211.
Order from LC or SLA mi$2.40, ph$3.30 59-19104

Trans. of Tekstil'naya Promyshlennost' (USSR) 1947, v. 7, no. 12, p. 18-21.

The vatting process for a number of polycycloketone dyes (in particular, dichloroindanthrone, Vat Brilliant Violet K, and Vat Golden Yellow ZhKh) amounts to the molecular dissolution of the leuco form in alkali. The main factors in the dissolution are—the degree of dispersion of the powder, the concentration of alkali, the presence of the reducing agent, and the temperature. Auxiliary substances of a colloidal nature and reduction catalysts are practically without effect on the dissolution process. Excess of reducing agent (hydrosulphite) beyond that required for the reduction process does not favour dissolution, but is of importance for the stability of the solution to oxidation. (Author's conclusions)

Chistyakov, A. N.
THE CHEMICAL COMPOSITION OF HARD-COAL PITCH (O Khimicheskom Sostave Kamennougolnogo Peka). Apr 58 [7]p. 5 refs. C. T. S. no. 445.
Order from LC or SLA mi$1.80, ph$1.80 59-22231

Trans. of Koks i Khimiya (USSR) 1957, no. 2, p. 37-41.

The boiling point, the melting point, the molecular weight, and the structural formula are tabulated for 55 individual compounds in medium-temperature hard-coal pitch. The data were obtained from 4 West German papers and 1 Japanese paper (1950-1955).

Eggersgluss, W.
ORGANIC PEROXIDES; THEIR CHROMATOGRAPHY, REACTIONS, DISTRIBUTION COEFFICIENTS, MICROGAS ANALYSIS AND PREPARATION (Organische Peroxyde; Chromatographie, Reaktionen, Verteilungskoeffizienten, Mikrogasanalytische Bestimmung und Darstellung) tr. by D. A. Sinclair. 1959, 124p. 82 refs. Technical Trans. 793.
Order from NRCC NRCC C-2977

Trans. of Angewandte Chemie und Chemie-Ingenieur-Technik. [Beihefte] (West Germany) 1951, no. 61, 86p.

Galle, R. R. and Nikolayev, A. G.
DETERMINATION OF THE STRUCTURAL GROUPS IN HUMIC ACIDS (K Voprosu ob Opredelenii Konstitutivnykh Grupp v Guminovykh Kislotakh). [1959] [15]p. 18 refs.
Order from LC or SLA mi$2.40, ph$3.30 59-22351

Trans. of Zhurnal Prikladnoy Khimii (USSR) 1939, v. 12, no. 6, p. 923-933.

Esterification by methanol in the presence of hydrogen chloride under the conditions usually employed does not yield accurate quantitative values for the carboxyl-group content of humic acids. This is caused by the partial etherization of the phenolic hydroxyl groups on the one hand and by the incomplete reaction with the carboxyl groups on the other. When the Heuser-Schmidt-Gunkel method is used for the methylation of humic acids by dimethyl sulfate, both the oxy-groups and a considerable number of the carboxyl groups (sometimes all of them) enter into reaction. Dimethyl sulfate may, therefore, be used for the precise determination of the total content of oxy-groups in humic acids only when the esterified carboxyl groups are completely saponified. Contrary to the observations of Stach, dimethyl sulfate does not cause an increase in the sulfur content of the preparations and does not disturb the elementary composition of the humic acids. The most complete characterization of the oxygen functions of humic acids by methylating reagents may be accomplished by successive or parallel treatment with diazomethane and dimethyl sulfate. The former, in combination with saponification, permits accurate determination of the number of carboxyl groups and phenolic hydroxyl groups. The latter, after saponification, makes it possible to determine, in addition, the oxy-groups (of neutral character) that do not interact with diazomethane. (Author)

Garif'yanov, N. S. and Kozyrev, B. M.
THE EFFECT OF OXYGEN ON PARAMAGNETIC RESONANCE ABSORPTION IN αα-DIPHENYL-β-PICRYLHYDRAZYL, tr. by R. E. Daisley. [1959] [6]p. 9 refs. Trans. 1010; M 340.
Order from LC or SLA mi$1.80, ph$1.80 59-22410

Trans. of Akademiya Nauk SSSR. Doklady, 1958, v. 118, no. 4, p. 738-739.
Another translation is available from CB $5.00.

Oxygen strongly affects the paramagnetic resonance adsorption at 127 mc in freshly ground powder of αα-diphenyl-β-picrylhydrazyl. Diminishing air pressure increased the intensity of adsorption and decreased the half-width ΔH of the absorption band. A specially pronounced change in the absorption band with increased temperatures was observed in direct contact with liquid O, while liquid N showed no effect. There is a sharp change of ΔH at 275°K which is explained by an alteration of movements of O molecules at the surface of the specimen. The O adsorption is the first step in the oxidation of this free radical and resonance disappears after a few days.

Guinier, A.
THE POSSIBILITIES OF X-RAY SCATTERING AT SMALL ANGLES IN THE STUDY OF LARGE MOLECULES. [1959] 7p.
Order from SLA mi$1.80, ph$1.80 60-10764

Trans. of Jo[urnal] of Polymer Science (U. S.) 1952, v. 9 [no. 6] p. 557-[563].

Hercay.
DETERGENT PROPERTIES OF GALL. [1959] 10p. 9 refs.
Order from SLA mi$1.80, ph$1.80 60-10884

Trans. of Tiba (France) 1926, v. 4, p. 331-335.

This review includes various formulae for soap which appeared in old-fashioned American household magazines, which were used by retail druggists, etc.

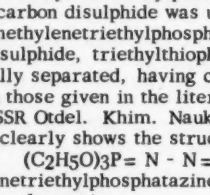
Kabachnik, M. I. and Gilyarov, V. A.
ALKYLPHOSPHORIC ACID IMIDES; TRIALKYL-PHOSPHATAZINES (Ob Imidakh Alkilfosfornykh Kislot; Trialkilfosfataziny). Feb 59 [6]p. 12 refs.
TIL/T. 4691; M 583.
Order from LC or SLA mi$1.80, ph$1.80 59-22664

Trans. of Akad[emiya] Nauk SSSR. Dokl[ady] 1956, v. 106, no. 3, p. 473-475.

Trialkylphosphites were found to react smoothly with diazomethane producing N-methylenetrialkylphosphatazines. The latter are colourless liquids soluble in organic solvents and insoluble in water. Only the triethyl derivative is slightly soluble in water. The constants of the substances obtained are tabulated. The basis of the reaction of trialkylphosphites with diazomethane is the easy combination of phosphorus by undivided pairs of electrons with transformation of a compound of trivalent phosphorus into a compound of pentavalent phosphorus. This reaction can be related to the group of reactions characteristic of compounds of trivalent phosphorus, such as reactions with sulphur, salts of monovalent copper, alkylhalides, phenyl-azide and the sodium salts of chloramides of arylsulpho-acids. In order to prove the structure of N-methylenetrialkylphosphatazines the reaction with carbon disulphide was used. It was found that N-methylenetriethylphosphatazine forms with carbon disulphide, triethylthiophosphate which was successfully separated, having constants which coincided with those given in the literature (Izvest. Akad. Nauk SSSR Otdel. Khim. Nauk 1947, 459). This reaction clearly shows the structure:

$$(C_2H_5O)_3P{=}N-N{=}CH_2,$$

for N-methylenetriethylphosphatazine and prompts the rejection of the alternative



Kawai, Wasaburo and Tsutsumi, Shigeru.
SYNTHESIS OF TERT.-BUTYL-(p-VINYLBENZYL)-PEROXIDE AND p-VINYLBENZYLMERCAPTAN. [1959] 10p. 15 refs.
Order from SLA mi$1.80, ph$1.80 60-10802

Trans. of Kogyo Kagaku Zasshi (Japan) 1959, v. 62, no. 7, p. 1048-1050.

Korshak, V. V. and Sergeyev, V. A.
FORMATION OF POLYMERIC HYDROCARBONS BY DECOMPOSITION OF ALIPHATIC DIAZOCOMPOUNDS [Ob Obrazovanii Polimernykh Uglevodorodov pri Raspade Alifaticheskikh Diazosoyedineniy]. [1959] 5p. 16 refs. M533.
Order from LC or SLA mi$1.80, ph$1.80 59-22712

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1957, v. 115, [no. 2] p. 308-311.

Kost, A. N. and Terent'yev, P. B.
BROMINATION OF CYCLIC KETONES USING DIOXANEDIBROMIDE. 8 Dec 59, 2p. 4 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-10924

Trans. of *Zhurnal Obschey Khimii (USSR) 1959, v. 29, no. 1, p. 338-339.

Kourim, Vaclav, Kritil, Josef, and Konecny, Citrad.
THE REACTIONS OF 2,2', 4,4', 6,6'-HEXANITRODIPHENYLAMINE (DIPICRYLAMINE) WITH Cs, Rb, K, and NH_4. [1959] 8p. 16 refs.
Order from LC or SLA mi$1.80, ph$1.80 AEC-tr-3662

Trans. of Chem[icke] Listy (Czechoslovakia) 1958, v. 52, p. 262-268.

A study was made of the precipitation of alkali elements, and particularly of cesium, using dipicrylamine, and a procedure suggested for quantitative determination of cesium using gravimetric and colorimetric methods. The procedure is essentially a variation of the procedure described by N. S. Poluektoff (Mikrochemie 14: 265, 1933/1934) for determining potassium. The solubility of dipicrylaminates of the alkalies in water falls in the sequence $NH_4 > K > Rb > Cs$, as has been established colorimetrically, gravimetrically, and, for Cs, radiometrically. Similarly the solubility of dipicrylaminates in diethyl ether has been determined. From the absorption spectra of aqueous and ether solutions in the ultraviolet and visible bands it is possible to follow changes in the structure of these compounds under various conditions.

Langenbeck, Wolfgang, Alm, Jens, and Knitsch, Karl Wolfgang.
PREPARATION OF FATTY ALCOHOLS FROM ACETALDEHYDE. Rept. 54 on Organic Catalysts. [1959] 8p. 6 refs.
Order from RIS $12.50 RIS JPC-23

Trans. of Journal für Praktische Chemie (East Germany) [1959] ser. 4, v. 8, no. 1/2, p. 112-116.

By means of self-condensation of acetaldehyde in the presence of dimethylamine and acetic acid, polyenealdehyde and a certain quantity of carbon atoms are produced, which when hydrogenated give rise to the corresponding fatty alcohols. The account of the reaction products has been recorded as accurately as possible. (Author)

Matthes, A.
COURSE AND EQUILIBRIUM OF CAPROLACTAM POLYMERIZATION, tr. by H. T. Reed. Jan 55 [11]p. 2 refs.
Order from SLA mi$2.40, ph$3.30 60-10769

Trans. of Makromolekulare Chemie (Switzerland) 1954, v. 13, no. 1, p. 90-101.

Mukooyama, E. and Takegawa, A.
MELT VISCOSITY OF NYLON 6. [1959] 11p. 8 refs.
Order from SLA mi$2.40, ph$3.30 60-10122

Trans. of Kōbunshi Kagaku (Japan) [1956] v. 13, no. 136, p. 323-329.

Nitzsche, S.
SOME REACTIONS WITH METHYL HYDROGEN POLYSILOXANE. [1959] 13p. 16 refs.
Order from SLA mi$2.40, ph$3.30 60-10706

Trans. of Makromolekulare Chemie (Switzerland) 1959, v. 34, p. 231-239.

A description is given of the preparation and properties of methyl hydrogen polysiloxane (MHS), its behavior toward alkalies, reaction with alcohols and acids, vulcanization of silicone rubber with MHS, reduction of inorganic and organic compounds with MHS, addition of unsaturated compounds, a siloxane-containing phosphorus-hydrogen compound and its action on aldehydes, silicon-containing low-valence titanium compounds, and reactions of these with olefinic double bonds, a telomer of styrene, and a silicon-containing high-molecular weight, low-pressure process ethylene polymer. (Author)

Petrov, A. D., Ponomarenko, V. A., and Odabashyan, G. V.
ORGANIC FLUOROSILICON COMPOUNDS; SIMPLE ORGANIC FLUOROSILICON ETHERS (Ftorkremniyorganicheskiye Soyedineniya; Prostyye Ftorkremniyorganicheskiye Efiry) tr. by J. W. Palmer. Nov 58 [8]p. 5 refs. Library Trans. no. 789; M 469.
Order from LC or SLA mi$1.80, ph$1.80 59-22535

Trans. of Akademiya Nauk [SSSR]. Doklady, 1958, v. 121, no. 2, p. 307-310.

The addition of silanes, having 0-3 chlorine atoms on the Si, to allyl 1, 1, 2-trifluoro-2-chloroethyl ether (1) has been studied. Experimental conditions, and properties and yields of reaction products, are tabulated. The silanes are arranged in the order of their ability to react with (1). The product of addition of $(C_2H_5)(C\ell_2)SiH$ to allyl 1, 1, 2, 2-tetrafluoroethyl ether is also described. Selected pairs of the silanes were reacted with (1) and the silanes arranged according to their activity in these joint addition reactions. (Royal Aircraft Establishment abstract)

Saikachi, Haruo and Hisano, Takuzo.
SYNTHETIC STUDIES ON FUNGICIDAL AGENT X. REACTION OF 2-METHYLBENZOTHIAZOLE AND AROMATIC PRIMARY AMINES (OR NITRO COMPOUNDS) IN THE PRESENCE OF SULFUR. [1959] 12p. 9 refs.
Order from SLA mi$2.40, ph$3.30 60-10977

Trans. of unidentified article from [Yakugaku Zasshi] (Japan) [1959].

Shilov, E. A.
SYNTHESIS OF 2-CHLOROETHANOL. VI. THEORY OF THE GOMBERG SYNTHESIS. [1959] [14]p. 53 refs. M.411.
Order from LC or SLA mi$2.40, ph$3.30 59-22479

Trans. of [Zhurnal Prikladnoy Khimii] (USSR) 1949, v. 22, no. 7, p. 734-746.

A theoretical basis is given for the formation of 2-chloroethanol, 1,2-dichloroethane and 2,2'-dichlorodiethyl ether by reaction of ethylene and chlorine in aqueous solution. The relative rates of formation of 2-chloroethanol and accompanying products are established, and formulae are given for the yields of these products, for the homogeneous reaction in solution. The influence of the gas phase and of physico-chemical factors in the heterogeneous synthesis of 2-chloroethanol are discussed. (Author)

Skopintsev, B. A.
SOME DATA ON THE CONTENT OF ORGANIC CARBON IN RIVERS IN THE WINTER MONTHS, tr. by A. Murphy. [1959] [3]p. M543.
Order from LC or SLA mi$1.80, ph$1.80 59-22700

Trans. of Gidrokhim[icheskiye] Mat[erialy] (USSR) 1955, v. 23, p. 36-38.

Tsujimoto, Mitsumaru.
HIGHLY UNSATURATED ACIDS OF JAPANESE SARDINE OIL (ISOLATION OF CLUPANODONIC ACID AND CORRECTION OF ITS CHEMICAL FORMULA). [1959] 16p. 12 refs.
Order from SLA mi$2.40, ph$3.30 60-10451

Trans. of [Fette Seifen Anstrichmittel] (Germany) 1926, v. 33 [no. 24] p. 285-291.

Fractional Distillation of the methyl esters of highly unsaturated acids obtained by the bromide method as well as by the lithium salt-acetone method from Japanese sardine oil, established the fact that an acid of the formula $C_{22}H_{34}O_2$ is the chief constituent of the same. The acids $C_{18}H_{28}O_2$, $C_{20}H_{32}O_2$ and $C_{20}H_{30}O_2$ probably occur in the lower boiling fraction. The acid $C_{22}H_{34}O_2$ was first isolated in an almost-pure condition. This proved to be the true acid for which I had earlier proposed the name clupanodonic acid. The formula of elupanodonic acid is confirmed as $C_{22}H_{34}O_2$. Some physical constants of clupa ıodonic acid or its methyl ester were determined. (Author)

Voyevodskiy, V. V.
THE COMPOSITION OF THERMAL DECOMPOSITION PRODUCTS OF UNSATURATED HYDROCARBONS (O Sostave Produktov Termicheskogo Raspada Nepredel'nykh Uglevodorodov) tr. by G. Belkov. 1959, 24p. 19 refs. Technical Trans. 821.
Order from NRCC $1.50 NRCC C-3143

Trans. of mono. Voprosy Khimicheskoy Kinetiki Kataliza i Reaktsionnoy Sposobnosti, Moscow, 1955, p. 150-164.

The analysis of a number of experimental data on the cracking of olefines of various structure shows that these processes, like cracking of saturated hydrocarbon, can be explained by a single chain mechanism. On the basis of the structure of crackable compounds one can predict the fundamental direction of decomposition and consequently, the composition of gaseous products and, what is of particular interest, the structure of liquid products. (See also 59-10049, 59-18598, 59-18615)

Physical Chemistry

PROCEEDINGS OF THE ACADEMY OF SCIENCES OF THE USSR. PHYSICAL CHEMISTRY SECTION, 1958, VOL. 123, NOS. 1-6, P. 765-935. 1959, 1v.
Order from CB $35.00, $160.00/year

Trans. of Akademiya Nauk SSSR. Doklady, 1958, v. 123, no. 1, p. 117-131ff; no. 2, p. 308-324ff; no. 3, p. 490-509ff; no. 4, p. 713-725ff; no. 5, p. 868-891ff; no. 6, p. 1048-1074ff.

PROCEEDINGS OF THE ACADEMY OF SCIENCES OF THE USSR. PHYSICAL CHEMISTRY SECTION, 1959, VOL. 124, NOS. 1-6, P. 1-211. 1959, 1v.
Order from CB $35.00, $160.00/year

Trans. of Akademiya Nauk SSSR. Doklady, 1959, v. 124, no. 1, p. 115-146ff; no. 2, p. 338-377ff; no. 3, p. 606-632ff; no. 4, p. 852-883ff; no. 5, p. 1085-1102ff; no. 6, p. 1258-1279ff.

Alyea, Hubert N. and Haber, F.
IGNITION OF DETONATING GAS BY QUARTZ OR PORCELAIN AT LOW PRESSURES. [1959] 21p. (2 figs. omitted) 8 refs.
Order from SLA mi$2.70, ph$4.80 60-14078

Trans. of Zeitschrift für Physikalische Chemie [Frankfurt] (Germany) 1930, v. 10 [no. 3] p. 193-204.

When jets of H_2 and O_2 are crossed within the temperature range of 435 to 540° C under pressures of from 10 to 200 mm Hg, no ignition will occur towards the center of the gas chamber, however spontaneous combustion will take place at quartz, porcelain, or glass walls at the same temperatures and pressures. This combustion is appropriately called "wall ignition". Aluminum walls do not produce this effect. The tendency of a porcelain wall to cause such low-pressure ignition may be suppressed for an extended period of time by pretreating it with hydrogen, whereas an oxygen pretreatment appears to increase such tendency temporarily. (Author)

Andreyev, K. K.
THE PROBLEM OF THE MECHANISM OF TRANSITION FROM BURNING TO DETONATION IN EXPLOSIVES (K Voprosu o Mekhanizme Perekhoda Goreniya Vzryvchatykh Veshchestv v Detonatsiyu). Apr 59 [6]p. 11 refs. TIL/T. 4681; M 399.
Order from LC or SLA mi$1.80, ph$1.80 59-22467

Trans. of Zh[urnal] Prikl[adnoy] Khim[ii] (USSR) 1944, v. 17, no. 9/10, p. 533-537.

Antonova, I. N., Kuz'min, V. I. and others.
INVESTIGATION OF THE MECHANISM OF METHANE OXIDATION BY MEANS OF TAGGED ATOMS, tr. by R. E. Daisley. [1959] [11]p. 4 refs. Trans. no. 1014; M 343.
Order from LC or SLA mi$2.40, ph$3.30 59-22413

Trans. of *Akademiya Nauk SSSR. Otdeleniye Khimicheskikh Nauk. Izvestiya, 1955, no. 5, p. 789-792.

Berlaga, R. Ya. and Chechurin, S. N.
PHOTORESISTANCES OF TELLURIUM OXIDE [Fotosoprotivleniya iz Okisi Tellura]. [1959] [3]p. M566.
Order from LC or SLA mi$1.80, ph$1.80 59-22680

Trans. of *Zhurnal Tekhnicheskoy Fiziki (USSR) 1958, v. 28, no. 6, p. 1174-1176.

Billeter, Otto C.
ACETYLISOCYANATE, $CH_3 \cdot CO \cdot N{:}CO$ (I) [AND] BENZOYL ISOCYANATE, $C_6H_5 \cdot CO \cdot N{:}CO$ (II). Rept. nos. 549-550 on the Effect of Silver Cyanate on Acid Chlorides. [1959] 14p. 7 refs.
Order from SLA mi$2.40, ph$3.30 59-20982

Trans. of [Chemische] Berichte (Germany) [1903] v. 36, no. 3, p. 3213-3221.

Clusius, K. and Dickel, G.
THE SEPARATION TUBE. V. PREPARATION OF O^{18}. [1959] 20p. (3 figs. 3 tables omitted) 5 refs.
Order from LC or SLA mi$2.40, ph$3.30 AEC-tr-3692

Trans. of Z[eitschrift für] Physik[alische] Chem[ie, Leipzig] (West Germany) 1944, v. 193, p. 274-286.

The construction and operation of a separating tube installation of 82 m length which has been designed on the cascade tube principle, is described. The separating tubes are freely suspended in six units of 13.7 m length, are equipped with heat resistant platinum wires as heating elements and are cooled by an external water spray. The installation attains a total separating factor of 10^5 with the use of oxygen. In addition to $^{16}O_2$, normal oxygen contains only 0.4% $O^{16}\,O^{18}$ and 0.08% $O^{16}\,O^{17}$. Nevertheless, the seperating tube delivers the molecular type O_2^{18} at the heavy end, since the equilibriums (for example, $2\,O^{16}\,O^{18} \rightleftharpoons O_2^{16} + O_2^{18}$) adjust themselves between the individual isotopic molecules at the hot platinum wires. The presence of the rare isotope O^{17} interferes only insofar as it will be enriched in the form of $O^{17}\,O^{18}$ and will finally be mixed with the heavy

isotope O_2^{18} during continuous withdrawal of the latter. In continuous operation the separating plant will therefore deliver first a binary mixture of O_2^{18} and $O^{17}O^{18}$. This mixture was processed in the small, old installation and a separation of 250 cc O_2^{18} with a purity of 99.5% O^{18} and 0.5% O^{17} was thus obtained. (Author)

Denisov, E. T. and Emanuel', M. M.
THE GASEOUS INITIATION BY NITROGEN DIOXIDE OF THE LIQUID PHASE OXIDATION OF CYCLOHEXANE, tr. by R. E. Daisley. [1959] [22]p. 10 refs. Trans. no. 1012; M 342.
Order from LC or SLA mi$2.70, ph$4.80 59-22412

Trans. of Zhurnal Fizicheskoy Khimii (USSR) 1957, v. 31, no. 6, p. 1266-1275.

Eidus, Ya. T. and Ordyan, M. B.
METHYLATION OF CYCLOPENTENE BY METHYLENE RADICALS FORMED IN CONTACT REDUCTION OF CARBON MONOXIDE WITH HYDROGEN. [1959] [7]p. 15 refs.
Order from LC or SLA mi$1.80, ph$1.80 59-22345

Trans. of Akademiya Nauk SSSR. Doklady, 1957, v. 116, no. 1, p. 101-104.

As a result of hydrocondensation of cyclopentene with CO in the presence of H_2, a side chain appeared in the five-membered ring: methyl, ethyl, and propyl radicals. A development of the five-membered ring takes place when corresponding hydrocarbons of the six-membered ring having methyl or ethyl radicals, or without such a side chain, occur simultaneously with the transformation in the five-membered ring. The larger part of the initial cyclopentene was hydrogenated into cyclopentane.

Einhorn, A., Cobliner, J., and Pfeiffer, H.
INNER PYROGALLOL CARBONATE (Über das Pyragallol). [1959] 6p.
Order from SLA mi$1.80, ph$1.80 60-14017

Trans. of excerpts from [Chemische Berichte] (West Germany) 1904, v. 37, p. 100-123.

Ershler, S. V.
THE STUDY OF THE KINETICS OF ELECTRODE REACTIONS BY MEANS OF ALTERNATING CURRENTS. [1959] [26]p. 7 refs. TL 886; M212.
Order from LC or SLA mi$2.70, ph$4.80 59-19105

Trans. of [Zhurnal Fizicheskoy Khimii] (USSR) 1948, v. 22, no. 6, p. 683ff.

Gerke, F. K., Dreval, Z. I., and Zvereva, V. P.
MICROCHEMICAL METHODS OF CONTROL OF PLATING BATHS. [1959] 8p. M 187.
Order from LC or SLA mi$1.80, ph$1.80 59-19081

Trans. of Zavod[skaya] Lab[oratoriya] (USSR) 1946, v. 12, p. 908-914.

Gerling, E. K. and Morozova, I. M.
DETERMINATION OF ACTIVATION ENERGY OF LIBERATION OF ARGON FROM MICAS. [1959] [10]p. 7 refs.
Order from SLA mi$1.80, ph$1.80 60-10865

Trans. of Geokhimiya (USSR) 1957, no. 4, p. 304-311.

The release of argon from muscovite, biotite and phlogopite was determined as a function of time for different temperatures. The results suggested, at least three different escape processes, corresponding to the location of the argon in different lattice positions. The activation energy for the first position is small and liberation is presumed to occur through lattice defects. The proportion of argon involved in this process amounts to only a few per cent of the total. In most of the cases the bulk of the argon was stored in the "second position" corresponding to an activation energy of 85 kilocalories/gm-atom Ar for muscovite, 67 kilocalories/gm-atom Ar for phlogopite and 57 kilocalories/gm-atom Ar for biotite. These energies are comparable with the bond strength for simple chemical compounds. The remaining argon is even more tightly bound. Phlogopite seems to undergo a rearrangement at higher temperatures, resulting in a stronger binding of a proportion of the argon. It was established that in the muscovite from Ulialegi, in Karelia, there is no content of occluded argon (as some workers have postulated): all of the argon was formed by decay of K^{40} contained in the mineral. The percentage content of argon liberated from the second position in the mineral varies, for different micas, from 60 to 78% and remains invariable for each sample within $\pm 6\%$ over a quite wide interval of temperatures. The exception is phlogophite, for which the quantities of argon as found decrease from 78% at low temperatures to 34% at 843°C and above. (See also 59-14777)

Glas, G. and Djernaes, E.
THE EVOLUTION OF CO BY PASSING CO_2 OVER INCANDESCENT COKE AT VARIABLE TEMPERATURES AND FLOW RATES. [1959] 10p. (1 table 9 figs. omitted).
Order from SLA mi$1.80, ph$1.80 60-10782

Trans. of Giesserei (West Germany) 1953 [v. 40] no. 19, p. 473-477.

Tests were performed from the viewpoint that the reaction consists of an oxidation and a reduction process. By passing CO_2 over glowing coke the magnitude of the reduction of CO_2 to CO was determined relative to the coke temperature at various flow velocities. The test results for three different kinds of coke are shown. Results indicate that at all flow velocities the CO_2 reduction increases with increased temperature, and at equal temperatures it decreases with increased flow velocity except in the velocity range 0 to 2 l/min. In the cupola furnace the reduction ends in the second and third coke layer. The different kinds of coke showed only minor differences during the reduction.

Ishkin, I. P.
THE CAUSE OF EXPLOSIONS IN THE LOWER COLUMNS OF OXYGEN APPARATUS [O Prichinakh Vzryvov v Nizhnikh Kolonnakh Kislorodnykh Apparatov]. [1959] [8]p. M 658.
Order from LC or SLA mi$1.80, ph$1.80 59-22612

Trans. of Kislorod (USSR) 1958 [v. 11] no. 5, p. 65-68.

The first part of this article is a letter from Mr. Zheltov, who describes an explosion which took place in the lower column during the partial warming-up of an oxygen plant. He asks for advice on how this happened, and how to prevent such accidents in future. In his reply, Prof. I. P. Ishkin states that all such explosions which have been investigated were very probably caused by the accumulation of solid acetylene in the lower column. He discusses the factors which affect this accumulation, and means of preventing it.

Karasharly, K. A. and others.
OCCURRENCE OF INSTABILITY IN NORMAL COMBUSTION (K Voprosu ob Usloviyakh Voznikhnoveniya Neustoychivosti Normal'nogo Goreniya). Apr 59 [6]p. 6 refs. TIL/T. 4922; M 574.
Order from LC or SLA mi$1.80, ph$1.80 59-22673

Trans. of Akad[emiya] Nauk [Azerbaydzhanskoy SSR, Baku]. Dokl[ady] 1955, v. 11, no. 12, p. 819-823.

In methane-oxygen and acetylene-oxygen mixtures the lower limit of the Reynolds number corresponding to the transition region from normal to detonation combustion was determined to be at least some hundreds of thousands.

Kazakov, A. V., Sokolova, E. I., and Vaynshteyn, A. Z.
EQUILIBRIUM SYSTEMS OF HYDROXIDE AND OXIDES OF IRON IN SOLUTIONS OF ITS CHLORIDES AND SULFATES (Sistemy Ravnovesiy Gidrookisey i Okisi Zheleza v Rastvorakh Yego Khlornykh i Sernokislykh Soley). 1959 [33]p. 39 refs. NRL Trans. no. 737.
Order from OTS $1.00 59-21091

Trans. of Akademiya Nauk SSSR. Institut Geologicheskikh Nauk. Trudy, 1957, no. 152. Geologicheskaya Seriya, no. 64, p. 72-92.
Another translation is available from ATS $28.80 as ATS-57K26R [1958] 25p.

According to the plan of research of the Institute of Geological Sciences of the Academy of Sciences USSR in the Laboratory for the Synthesis of Sedimentary Minerals of the Division of Petrography of Sedimentary Materials, experimental work was carried out to study equilibrium systems of oxides and hydroxides of ferrous minerals of the goethite group, ruby mica (lepidocrocite), hematite, as well as ferrous hydroxide and ferrous carbonate (of the siderite group and others), ferriferrosilicates, and finally, the more complicated system of alumoferriferrosilicates (of the ferrous chlorite group). The task of this work was to determine the physical chemical parameters of the lithological conditions of creation and stability of sedimentary ferrous minerals and the formation of their deposits. In the present article is summarized the material investigated by us concerning the sulfate and chloride equilibrium systems of hydroxides and oxides of iron under low temperature conditions. (Author)

Kiseleva, K. G. and Kizub, L. A.
DIFFUSION OF A POLYSTYRENE FRACTION IN CARBON TETRACHLORIDE. [1959] 6p.
Order from ATS $7.50 ATS-14L35R

Trans. of Leningrad U. Vestnik (USSR) 1956 [v. 11] no. 10, p. 6-11.

Kisova, Libuse and Cuprova, Vera.
STUDY OF THE EQUILIBRIA OF AQUEOUS SOLUTIONS CONTAINING COMPLEX CYANIDES OF NICKEL AND COPPER AND FREE POTASSIUM CYANIDE [Studium Rovnovah Vodnich Roztoku Obsahyjicich Komplexni Kyanidy Niklu a Medi a Volny Kyanid Draseiny] [1959] 8p. 19 refs.
Order from LC or SLA mi$1.80, ph$1.80 AEC-tr-3810

Trans. of Chemicke Listy (Czechoslovakia) 1958, v. 52, p. 1422-1427.

The equilibria in aqueous solutions of a complex nickel-copper-cyanide system has been photometrically measured by the method of continual variations, as were possible influences upon one another of complex nickel and copper cyanides. The dissociation constant of the complex $[Ni(CN)_6]^{-4}$ was determined. (Author)

Kohlitz, Werner.
A NEW METHOD FOR THE QUANTITATIVE DETERMINATION OF PARTICLES OF GEL IN COLLOIDAL SOLUTIONS, ESPECIALLY VISCOSE. [1959] [7]p. 2 refs.
Order from SLA mi$1.80, ph$1.80 60-10795

Trans. of Reyon, Zellwolle [und Andere Chemisfasern] (West Germany) 1952, v. 30, no. 7, p. 343-346.

Korobeynikov, V. P.
EXACT SOLUTION OF THE NONLINEAR PROBLEM OF AN EXPLOSION IN A GAS WITH VARIABLE INITIAL DENSITY. [1959] 3p.
Order from MDF $2.00 MDF K-170

Trans. of A[kademiya] N[auk] SSSR. Doklady, 1957, v. 117, no. 6, p. 947-948.

Kozlov, P. V., Kabanov, V. A., and Frolova, A. A.
AN INVESTIGATION OF THE DEFORMATION OF POLYETHYLENE TEREPHTHALATE CRYSTAL FILMS. [1959] 6p. 8 refs. T-3059.
Order from LC or SLA mi$1.80, ph$1.80 60-10278

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1959, v. 125, no. 1, p. 118-121.

Two different degrees of crystallization were obtained by the crystallization of amorphous films of polyethylene terephthalate by heating for 30 min at 115° in one case and at 150° in the other. The density of the first series of samples determined by means of a gradient tube leveled off at 1.358 g/cu cm, and the density of the second, at 1.369 g/cu cm (density of the amorphous film was 1.313 g/cu cm). After heating, the original transparent amorphous film became turbid and when it was examined in polarized light it displayed a spherulitic structure. The X-ray picture showed an isotropic distribution of crystals developing in the film. Samples of such films were stretched in a Polyanitype apparatus at different temperatures and at different rates up to 100% of the original length. A small increase in the intensity of the diffuse halo in the region of the equation indicated some orientation of the chains in the amorphous structures. The picture of the spherulites in polarized light also disappears. By using a polymer with a higher glass temperature an amorphous phase could be distinguished from a recrystallized phase.

Kume, Yasuzo.
STUDIES ON DESIGN OF APPARATUS FOR CHEMICAL EXPERIMENTS UNDER HIGH PRESSURE. Sep 59, 23p. 21 refs.
Order from LC or SLA mi$2.70, ph$4.80 AEC-tr-3640

Trans. of [Butsuri Kagaku no Shimpo] (Japan) 1943, v. 17, p. 1-11.

Kusakov, M. M., Lubman, N. M., and Koshevnik, A. Yu.
AN APPARATUS FOR MEASURING THE INTERFACIAL TENSION OF OILS AND THE CONTACT ANGLE OF WETTING UNDER CONDITIONS OCCURRING IN OIL BEDS. tr. by R. E. Daisley. [1959] [24]p. 13 refs. Trans. no. 1015; M 344.
Order from LC or SLA mi$2.70, ph$4.80 59-22415

Trans. of Neftyanoye Khozyaystvo (USSR) 1954, v. 32, no. 2, p. 27-32.

A method and apparatus (containing no mercury) are described for measuring the interfacial tension of oils at the boundary with gaseous and aqueous phases, and also contact angles of wetting under conditions occurring in the oil beds (at pressures up to 400 kg/sq cm and temperatures up to 100°C). This apparatus also allows the density of oil and water to be measured. Measurement of interfacial tension and wetting is carried out under equilibrium conditions, when both phases (gas and oil or oil and water) are mutually saturated.

Leybush, A. G. and Shneyerson, A. L.
ABSORPTION BY ETHANOLAMINES OF HYDROGEN SULPHIDE AND MIXTURES OF IT WITH CARBON DIOXIDE. [1959] 8p. (5 figs omitted) 5 refs. M517.
Order from LC or SLA mi$1.80, ph$1.80 59-22565

Trans. of *[Zhurnal Prikladnoy Khimii] (USSR) 1950, v. 23, no. 2, p. 145.

With rise of partial pressure of H_2S within the range 0.05 to 350 mm Hg its solubility in solutions of mono- and diethanolamine under all experimental conditions rises sharply. With rise of temperature in the range 15° to 50°C the solubility falls. The solubility of hydrogen sulphide in solutions of monoethanolamine is 2.5 to 3.5 times as large as in solutions of diethanolamine. The use of solutions of mono and diethanolamine at 25° and atmospheric pressure produces purified gas with H_2S content of 0.0002 and 0.001%, respectively. The presence of carbon dioxide in the ethanolamine solution lowers the solubility of hydrogen sulphide. The presence of hydrogen sulphide in the solution in turn lowers the solubility of the carbon dioxide. (Author's conclusions)

Milyutinskaya, R. L., Bagdasar'yan, Kh. S., and Izrailevich, E. A.
INVESTIGATION OF THE MECHANISM OF RADICAL REACTIONS. IV. THE MECHANISM OF THE FORMATION OF DIPHENYLS IN THE DECOMPOSITION OF BENZOYL AND P-NITROBENZOYL PEROXIDES IN BENZENE AND NITROBENZENE (Issledovaniye Mekhanizma Radikal'nykh Reaktsii. IV. Mekhanizm Obrazovaniya Difenilov pri Raspade Berekisey Benzoyla i -Nitrobenzoyla v Benzole i Nitrobenzole). Oct 59 [20]p. 13 refs. RTS no. 1035.
Order from LC or SLA mi$2.40, ph$3.30 59-22585

Trans. of Zhurnal Fizicheskoy Khimii (USSR) 1957, v. 31, no. 5, p. 1019-1026.

In the decomposition of benzoyl peroxide in deuterobenzene the concentration of D in the diphenyl produced is 45% of the concentration of D in the original benzene. The resin produced contained 48% D. These figures did not change with temperature (75-100°C) or with peroxide concentration (0.02-0.12 M). The decomposition of p-nitrobenzoyl peroxide in deuterobenzene produced only 4-nitrodiphenyl and none of the other possible diphenyls; it contained 52.5% D. The nitrobenzoic acid produced contained 19.5% D. The decomposition of p-nitrobenzoyl peroxide in nitrodeuterobenzene gave dinitrodiphenyls containing 42% D and nitrobenzoic acid containing 19.3% D. The following conclusions may be drawn from the results obtained: the diphenyls are produced by addition of a phenyl (nitrophenyl) radical to a benzene (nitrobenzene) molecule to give a C_6H_5-C_6H_6 radical, followed by removal of hydrogen (deuterium) from this radical by a benzoate (nitrobenzoate) radical. There is no isotopic effect in the hydrogen (deuterium) cleavage reaction. (Author)

Pleskov, Yu. V.
INJECTION AND EXTRACTION OF MINORITY CURRENT CARRIERS ON THE SURFACE OF GERMANIUM ELECTRODE AS A RESULT OF ELECTROCHEMICAL PROCESSES [Inzhektsiya i Ekstraktsiya Neosnovnykh Nositeley toka na Poverkhnosti Germaniyevogo Elektroda v Resul'tate Elektrokhimicheskikh Protsessov]. [1959] 5p.
Order from MDF $2.50 MDF P-135

Trans. of A[kademiya] N[auk] SSSR. Doklady, 1959, v. 126, no. 1, p. 111-114.

Ramondt, A. Slingervoet.
ON DETONATION. July 59, 4p. 6 refs. Picatinny Arsenal Trans. no. 42.
Order from LC or SLA mi$1.80, ph$1.80 59-18131

Trans. of Chem[isch] Weekblad (Netherlands) 1917, v. 14, p. 544-547.

Ril', N. V.
ELECTROCONDUCTIVITY OF CRYSTALS IN POLYCYCLIC COMPOUNDS AND OTHER ORGANIC INSULATORS; EXPERIMENTS WITH PARAFFIN. CHANGE IN THE CONDUCTIVITY OF PARAFFIN, NAPHTALENE AND ANTHRACENE DURING MELTING (Elektroprovodnost' Kristallov Politsiklicheskikh Soyedinenii i Drugikh Organicheskikh Izol'yatorov (I)) tr. by Marcel I. Weinreich. 13 Aug 59, 5p.
Order from LC or SLA mi$1.80, ph$1.80 SCL-T-269

Partial trans. (p. 969-970) of Zhurnal Fizicheskoy Khimii (USSR) 1955, v. 29, no. 6, p. 959-974.

Electroconductivity in solid paraffin specimens (mp 51° to 52°C) of different origin and different degree of purity was determined. Even in the purest samples, having a conductivity not above 10^{-19} in fields of low intensity, the production of electroconductivity in strong fields was unsatisfactory. However, in a melted state the same specimens showed an excellent electroconductivity. This indicates that the poor conductivity in the most pure hard paraffin is caused by an inhomogeneity connected with the microcrystalline structure of the material. Upon raising the temperature up to 39° or 40°C, an abrupt increase of conductivity was observed, which could be explained by the melting of the low-temperature admixture component. Tests carried out with monocrystalline naphthalene displayed a still greater jump in the conductivity during melting; this jump being comparable to a factor of virtually 10^4.

Roginskiy, S. Z.
ISOTOPIC METHODS OF STUDY OF THE HETEROGENEITY OF ACTIVE SURFACES AND THE INTERACTIONS IN ADSORPTIVE LAYER. [1959] 11p. 10 refs.
Order from LC or SLA mi$2.40, ph$3.30 60-14116

Trans. of Zhurn[al] Fiz[icheskoy] Khim[ii] (USSR) 1958, v. 32, no. 4, p. 737-745.

The earlier proposed differential isotopic method, in the absence of side effects of redistribution, permits a well defined demarcation between heterogeneity and interaction "repulsion". The possibility of appearance of analogous effects on account of macro- and microscopic heterogeneities should be considered and corrections for the thermodynamic and kinetic isotopic effects should be introduced. Only in especially favorable cases the utilization of the method for a quantitative characteristic of heterogeneity and of interaction is possible. The kinetics of isotopic exchange of adsorbed molecules and of constitutive parts of the lattice surface with gases and with dissolved substances is radically different for systems with E and Q changing because of heterogeneity and of interaction. On the basis of the theory of a complicated isotopic exchange it is possible to produce clear criterions of heterogeneity and of interaction. The methods of the statistic theory of processes on largely heterogenous surfaces permit to determine, by the kinetics of exchange, the type of distribution function of E and the character of dependence of different properties on the coverage in the presence of interaction on homogenous and on heterogenous surfaces. The heterogeneity predominates over the interaction in the systems studied until the present. (Author's conclusions)

Schwab, G. M., Young, D. M., and Noller, H.
THE DECOMPOSITION OF ALKYL CHLORIDES ON HOT TUNGSTEN WIRES; A CASE OF PSEUDO-HETEROGENEOUS CATALYSIS. Nov 59, 28p. 16 refs.
Order from SLA mi$2.70, ph$4.80 60-14015

Trans. of Zeitschrift für Physikalische Chemie [Frankfurt] (West Germany) 1958 [neue folge] v. 18, p. 181-200.

The HCL dissociation of three alkyl chlorides on tungsten wires was investigated. It was shown that this is not a case of a catalytic reaction on the surface of the wire but rather a homogeneous reaction in the heated zone in the vicinity of the wire. Experimental activation energies lie only slightly below the true activation energies of the homogeneous reaction and vary somewhat with the pretreatment of the wire. This behavior can be traced back to a change in the accommodation coefficient. Thus the temperature discontinuity and temperature dependence appearing at the boundary gas-solid body is changed. This leads to an apparent decrease in the activation energy. (Author's abstract)

Shcherbakova, K. D. and Slovetskaya, K. I.
ON THE INFLUENCE OF CHEMICAL MODIFICATIONS OF THE SURFACE OF SILICA GEL ON ITS ADSORPTION PROPERTIES (O Vliyanii Khimicheskogo Modifitsirovaniya Poverkhnosti Silikagelya na yego Adsorbtsionniye Svoystva). Mar 58 [6]p. 17 refs. C. T. S. no. 434.
Order from LC or SLA mi$1.80, ph$1.80 59-22228

Trans. of Akademiya Nauk SSSR. Doklady, 1956, v. 111, no. 4, p. 855-858.

Adsorption isotherms for methyl-alcohol vapor on ordinary silica gel and two methylated types and adsorption isotherms for benzene vapor on ordinary silica gel and a chlorinated variety showed that the structure of the silica gel was not changed by methylation or by chlorination. Structural and adsorption characteristics of the various silica gels are tabulated.

Shternina, E. B.
DETERMINATION OF THE SOLUBILITY OF CALCITE IN AQUEOUS SOLUTIONS (Raschot Rastvornimosti Kal'tsita v Vodnuikh Rastvorakh) tr. by K. P. R. Ehrenberg. May 51 [5]p. 10 refs. Library Communication no. 550; T/L 865; M 196.
Order from LC or SLA mi$1.80, ph$1.80 59-19090

Trans. of Akademiya Nauk SSSR. Doklady, 1945, v. 50, no. 5, p. 261-264.

Spryakov, A. A.
INVESTIGATION OF THE SULPHONATION REACTION (Izucheniye Reaktsii Sul'firovaniya). [1959] [5]p. 3 refs. M570.
Order from LC or SLA mi$1.80, ph$1.80 59-22676

Trans. of Akademiya Nauk SSSR. Sbornik Statey po Obshchey Khimii, 1953, v. 2, p. 878-881.

The relative activities of various sulphonating agents were determined by sulphonating naphthalene trisulphochloride at 150 - 170° and 1,5-naphthalene disulphochloride at 100°. The following order of activity of the sulphonating agents was established:

55% oleum > 73% oleum > SO_3 > HSO_3Cl > H_2SO_4

A thermal equilibrium diagram of the binary system of 1,5-naphthalene disulphochloride with 1,3,5-naphthalene trisulphochloride was obtained.

Spryskov, A. A.
INVESTIGATION OF THE SULPHONATION REACTION. V. CONDITIONS FOR IRREVERSIBILITY OF THE SULPHONATION REACTION (Izucheniye Reaktsii Sul'firovaniya. V. Usloviya Neobratimosti Reaktsii Sul'firovaniya). [1959] 9p. 7 refs. M 412.
Order from LC or SLA mi$1.80, ph$1.80 59-22480

Trans. of Zh[urnal] Obshchey Khimii (USSR) 1946, v. 16, p. 2126-2131.

Conditions for the irreversibility of the sulphonation reaction are found. If in the process of sulphonation the organic compound forms one isomer, certain temperature may be established below which the sulphonic acid formed will not hydrolyse and the sulphonation reaction becomes practically irreversible. Above this temperature hydrolysis of the sulphonic acid is possible and the sulphonation reaction becomes reversible. If in the process of sulphonation two isomers are formed, then the sulphonation reaction becomes reversible only above the temperature of hydrolysis of that isomer whose hydrolysis proceeds with greater difficulty. At temperatures lying between those of hydrolysis of both isomers the sulphonation reaction proceeds practically irreversibly in the direction of the formation of a non-hydrolyzing isomer. Thus during the sulphonation of naphthalene lasting 1444 hours at 100°, only about 0.3 p. c. of sulphuric acid are not involved in the reaction, while the mixture of sulphonic acids consists of 96 p. c. of β-acid, 2 p. c. of α-acid and about 1.8 p. c. of disulphoacids. (Author)

Taubman, A. B. and Nikitina, S. A.
THE ROLE OF PHYSICO-CHEMICAL FACTORS IN THE INTERACTION BETWEEN DUST PARTICLES AND DROPS OF SOLUTION OF SURFACE-ACTIVE AGENTS (O Roli Fiziko-Khimicheskikh Faktorov pri Vzaymodeystvii Chastits Pyli s Kaplyami Rastvorov Poverkhnostno-aktivnykh Veshchestv). Feb 58 [5]p. 8 refs. TIL/T. 4818; M 705; [AD-159 077].
Order from LC or SLA mi$1.80, ph$1.80 59-22609

Trans. of Akad[emiya] Nauk SSSR. Dokl[ady] 1956, v. 110, no. 4, p. 600-602.

The dust-interception capacity of water and wetting-agent solutions was assessed by means of nephelometric determination of the turbidity of suspensions formed as a result of the capture of suspended dust particles (quartz, coal, or talc) by free-falling 2- to 4-mm-diam drops in a dust-laden (about 10^4 particles/cu cm) space. The comparative effect (with reference to pure water) of solutions of wetting agents is characterized by the value of the ratio between turbidity values for the solution and for water, $E = M_{sol}/M_{water}$. To evaluate the total effect, E, the measurements were completed so that the water and solution droplets were formed from capillaries of similar diam. The value of their adsorption effect, E_{ads}, was obtained by using droplets of the same dimensions formed from capillaries of various specially selected diameters. The dust specimens contained up to 20μ fractions in the coal-dust particles, and up to 5μ fractions in the quartz and talc particles. Measurements of E, E_{ads}, and the surface tension, σ, of various solutions are tabulated. E_{ads} is 75 to 90% of the value of E in all cases, which shows that the lowering of the surface tension of water associated with the adsorption causes a change in the composition of the surface layers of the droplets and an increase in their dispersion.

Tsybina, E. N., Gel'bshteyn, A. I. and others.
KINETICS OF THE VAPOR PHASE HYDRATION OF ACETYLENE IN THE PRESENCE OF A CARBON SUPPORTED PHOSPHORIC ACID CATALYST. [1959] 9p. (1 fig. omitted) 31 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-14115

Trans. of Zhurn[al] Fiz[icheskoy] Khim[ii] (USSR) 1958, v. 32 [no. 4] p. 856-863.

The kinetics of acetylene hydration with the catalyst - phosphoric acid on carbon carrier, in the interval 261-302°C, were investigated. The reaction occurs under the experimental conditions in the kinetical region, without complication by transfer processes. The reaction rate is proportional to the acetylene concentration. It drops with the increase of the partial pressure of steam, which is explained by the decrease of acid concentration. The reaction rate is approximately proportional to the acidity and it is apparently independent on the water activity. These correlations are explained by a scheme of the reaction mechanism, where it is assumed, that the monomolecular rearrangement of the π-complex of acetylene with proton into the carbonium ion is the limiting stage. The activation energy of the process was determined with the account of the temperature dependence of the catalyst acidity. (Author)

Varshavsky, Ya. M. and Weissberg, S. E.
THE LAWS OF EQUILIBRIUM DISTRIBUTION OF DEUTERIUM IN HYDROGEN ISOTOPE EXCHANGE REACTIONS, tr. by L. J. Goodlet. June 59 [8]p. 5 refs. Trans. U 85; M670.
Order from LC or SLA mi$1.80, ph$1.80 59-22610

Trans. of A[kademiya] N[auk] SS[S]R. Doklady, 1955, v. 100, no. 1, p. 97-100.

An analysis is made which shows that the highest possible value of the coefficient of distribution of deuterium (α = 8 to 8.5, at 20°) must occur in the case of isotopic exchange of hydrogen between the hydride of the heaviest alkali metal and one of the compounds of a non-metal of the first period with hydrogen. The relationships derived are valid also for tritium and the isotopes of other, monovalent elements; with the difference that in the case of tritium the effect will be even greater; and for the isotopes of the heavier elements, considerably less.

Vintaykin, E. Z.
THE VAPOUR PRESSURE OF CHROMIUM OVER CHROMIUM-IRON ALLOYS IN THE SOLID STATE, tr. by S. Klemantaski. [1959] [9]p. 10 refs. Trans. no. 120; M370.
Order from LA or SLA mi$1.80, ph$1.80 59-22439

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1958, v. 118, no. 5, p. 977-979.
Another translation is available from CB $5.00 [1958] [3]p.

The CrFe system was heated in the 1100° to 1400°C range, and the saturation vapor pressure of Cr was calculated. Hydrogen-purified electrolytic Fe and Cr were used to prepare the alloys: the Cr contained the radioactive isotope Cr^{51}. Knudsen's effusion method, as described by Yu. V. Korney and V. N. Golugkin (Fiz. Metal. i Metalloved. Akad. Nauk SSSR Ural. Filial 1: 286, 1955) and by the author (Akad. Nauk SSSR Doklady 117: 632, 1957), was used with radiometric determination of Cr^{51} condensed on targets. The values of the vapor pressure of Cr over CrFe alloys could be represented by the empirical equations: $\log P_{bar} = (-18430/T) + 11.653$ for 21.3 at. -% Cr: $\log P_{bar} = (-18500/T) + 11.990$ for 41.4 at. -% Cr; $\log P_{bar} = (-18670/T) + 12.122$ for 55.2 at. -% Cr; $\log P_{bar} = (-18730/T) + 12.234$ for 75.5 at. -% Cr; and $\log P_{bar} = (-18940/T) + 12.388$ for pure Cr. From the vapor-pressure data, the heats of solution of Cr and Fe and the thermodynamic activities at 1667°K were calculated by the Gibbs-Duhem equation. These were used to derive the integral molar thermodynamic functions, i.e., changes in heat contents ΔH and change in free energy ΔF from which the change in entropy ΔS can be obtained through the equation $\Delta F = \Delta H - T\Delta S$. Plotting of this data for various CrFe solid solutions showed that the CrFe system has a positive heat of mixing and that the solid solutions are subject to segregation. Extrapolation of the free-energy curve allowed the critical breakdown temperature to be estimated as 600°C. This confirms the fact that the CrFe alloys are subject to embrittlement at 475°C because of breakdown into 2 solid solutions.

Volchkova, L. M., Antonova, L. G., and Krasil'schikov, A. I.
THE ANODIC BEHAVIOR OF NICKEL IN ALKALINE SOLUTION. Nov 59, 10p. 5 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-14006

Trans. of Zhurnal Fizicheskoy Khimii (USSR) 1949, v. 23, p. 714-718.

The previously established mechanism (Zhur. Fiz. Khim. 23: 441, 1949, a translation of which is available from LC or SLA as 60-14005) for oxygen evolution on nickel is shown to be valid up to current densities of the order of 0.1 amp/sq cm. In an atmosphere of hydrogen the oxidation of active nickel is associated with the presence of two intermediate steps, the formation of $Ni(OH)_2$ and the conversion of $Ni(OH)_2$ into Ni_2O_3. The second stage is associated with the beginning of oxygen evolution. Anodic oxygen evolution on nickel takes place on a layer of Ni_2O_3 covering the electrode surface. The presence of chloride ions in dilute alkaline solution at a sufficiently high ration of chloride to hydroxide ion prevents the formation of the layer of Ni_2O_3 and oxygen evolution. It leads to the dissolution of nickel and the corrosion in this case has a localized character. (Author)

Volchkova, L. M. and Krasil'shchikov, A. I.
THE ANODIC EVOLUTION OF OXYGEN ON NICKEL IN ALKALINE SOLUTION. Nov 59, 8p. 11 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-14005

Trans. of Zhurnal Fizicheskoy Khimii (USSR) 1949, v. 23 [no. 4] p. 441-444.

Oxygen evolution at a nickel anode in KOH solutions from 0.01 to 5N at 20°, 80°, and 95°C. An experimental equation
$\phi = A' + 0.70(RT/F) \ln i - 1.74(RT/F) \ln |OH'|$
was derived from the data obtained for the electrode potential as a function of current density and hydroxyl ion concentration. A kinetic equation
$\phi = A' + 0.67(RT/F) \ln i - 1.67(RT/F) \ln |OH'|$
was derived for the process of oxygen evolution on a nickel anode in an alkaline solution. The two equations are in satisfactory agreement. The limiting step of the process of anodic evolution of oxygen on a nickel anode in an alkaline solution is the rate of discharge of oxygen ions at the surface of the electrode covered with oxide. (See also 60-14006)

Wurzschmidt, Bernhard.
SYSTEMOTOLOGY AND QUALITATIVE INVESTIGATION OF SURFACE-ACTIVE SUBSTANCES. [1959] 119p. (1 fig. tables formulae omitted) 68 refs.
Order from SLA mi$6.00, ph$18.30 60-10776

Trans. of Zeitschrift für Analytische Chemie (West Germany) 1950, v. 130, no. 2/3, p. 105-185.

The following new classification is proposed on the basis of experimental results:
I. Cationic surface-active compounds
(a) Ternary and quaternary compounds of oxygen, sulfur, nitrogen, or phosphorus;
(b) Compounds with mostly tri-valent nitrogen atoms present in solution as nonquaternary/poly/-ammonium compounds;
(c) Polyalkylene oxide adducts present in aqueous solution in the form of cationic surface-active polyoxonium compounds.
II. Nonionogenic compounds
(a) Fatty acid-alkylol amine or poly-alcohol condensates.
III. Anionic surface-active compounds.

Topics are noted of papers that were read at the session held December 23 to 27, 1958.

Chavet, R., Beconinck, B. and others.
MEASUREMENT OF THE VELOCITY OF SEISMIC WAVES IN CORES: DESCRIPTION OF THE APPARATUS CONSTRUCTED BY THE FRENCH INSTITUTE OF PETROLEUM. [1959] [11]p. 28 refs. TR-PA-59-23.
Order from SLA mi$2.40, ph$3.30 60-10790

Trans. of Re[vue] de l'[Institut Francais du Petrole [et Annales des Combustibles Liquides (France) 1957, v. 12 [no. 6] p. 715-759.

The apparatus has two quartz crystals, one an emitter of seismic signals and the other a receiver; it has an electronic system for measuring the propagation time of the signals, and a high-pressure, high-temperature cell which reproduces subsurface conditions down to 4,000 meters. Discussions are included on means for exciting the sample, the time measuring apparatus, the apparatus for controlling pressure and temperature, conditions of use; and sample preparation.

Golovanov, I. M.
A FIND OF HUNTITE IN THE KURGASHINKAN DEPOSIT (UZBEK SSR) [O Nakhodke Khantita v Mestorozhdenii Kurgashinkan (UzSSR)]. [1959] 4p.
Order from ATS $5.75 ATS-35L36R

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1959, v. 124, no. 2, p. 398-401.

Lavrov, V. V.
THE QUESTION OF UNDERWATER ICE FORMATION (K Voprosu Obrazovaniya Vnutrivodnogo l'da) tr. by Valys Zilius and David Kraus. Oct 58 [8]p. 6 refs. T-R-154 +
Order from LC or SLA mi$1.80, ph$1.80 59-22181

Trans. of Meteorologiya i Gidrologiya (USSR) 1957, no. 5, p. 43-45.

The following conclusions presented by V. V. Piotrovich are critized: (1) That "under conditions of slight supercooling of water (within the temperature range 0^{o} to -0.2^{o}), ice crystals do not multiply independently by ejecting embryos, otherwise the supercooling of the water would be eliminated in a very short time"; and (2) that the most probable cause of the increase in the number of embryos "should be considered the processes of fracturing and fragmentation of the ice in a reservoir."

Ogneva, T. A.
ON THE PROGRESS-REPORT SESSION OF THE SCIENTIFIC COUNCIL OF THE MAIN GEOPHYSICAL OBSERVATORY IMENI A. I. YOYEYKOV. 10 Nov 59, 4p. JPRS: L-1077-N.
Order from OTS $0.50 60-11041

Trans. of *Meteorologiya i Gidrologiya (USSR) 1959, no. 5, p. 60-61.

Climatology and Meteorology

THE HYDROMETEOROLOGICAL SERVICE OF THE USSR ON THE FORTIETH ANNIVERSARY OF THE GREAT OCTOBER SOCIALIST REVOLUTION (Gidrometeorologicheskaya Sluzhba SSSR k Sorokaletiyu Velikoy Oktyabr'skoy Sotsialisticheskoy Revolyutsii) tr. by Richard Holden and Geraldine Kline. July 59 [67]p. 72 refs. T-RC-15.
Order from LC or SLA mi$3.90, ph$10.80 59-19061

Trans. of Meteorologiya i Gidrologiya (USSR) 1957, no. 11.

Contents:
1. Meteorological Research in the USSR (Meteorologicheskiye Issledovaniya v SSSR) by I. M. Budyko. p. 7-16.
2. The Development of Synoptic Meteorology over the Past Forty Years (Razvitiye Sinopticheskoy Meteorologii za 40 Let) by I. K. Kashin. p. 17-25.
3. Advances in Soviet Aerology (Uspekhi Sovetskoy Aerologii) by G. I. Golyshev. p. 26-31.
4. 40 Years of the Agrometeorological Service (Agrometeorologicheskaya Sluzhba za 40 Let) by M. S. Kulik. p. 32-39.

Alekseyev, G. A.
ON THE METHODS OF CALCULATING MAXIMUM FLOOD DISCHARGES AND HYDROGRAPHS WHEN NO RECORDS ARE AVAILABLE (O Metodakh Rascheta Maksimal'nykh Raskhodov i Gidrografov Pavodkov pri Otsutstvii Nablyudenii). Mar 58 [11]p. 6 refs. C. T. S. no. 444.
Order from LC or SLA mi$2.40, ph$3.30 59-22230

Trans. of Meteorologiya i Gidrologiya (USSR) 1957, no. 6, p. 40-45.

The most frequently used empirical or semiempirical formulas for computing maximum flood discharges are reviewed, the principles on which they are based are critically assessed, and a previous attempt by D. L. Sokolovskii (Meteorologiya i Gidrologiya 1956, no. 5) to make a similar review is criticized.

Avvakumov, V. A.
DETERMINATION OF THE LEVEL OF MAXIMUM WIND VELOCITIES IN VARIOUS PARTS OF JET STREAMS. 9 Nov 59, 4p. JPRS: L-1053-N.
Order from OTS $0.50 60-11013

Trans. of *Meteorologiya i Gidrologiya (USSR) 1959, no. 3, p. 27-29.

Aerological observations of 686 cases of jet streams (344 over Moscow and 342 over Minsk) made between 1952 and 1955 showed that in the cyclonic periphery of a jet stream the mean level of maximum wind ve-

locities generally lies above the tropopause, regardless of the season of the year. During the cold part of the year this excess altitude reaches nearly 400 meters. Near the jet-stream axis and in the anticyclonic jet-stream periphery the mean value of the level of maximum wind velocities is located 1,000 to 1,500 meters or more below the tropopause. The height of the tropopause and the mean relative altitude of maximum wind velocities increase from the cyclonic toward the anticyclonic peripheries of the jet stream. The level of maximum wind velocity lies above the tropopause 41.4% of the year on the cyclonic side of the stream and 13.5% on the anticyclonic side. In all parts of the stream cases of direct coincidence between maximum wind velocity and the tropopause are observed only 5 to 7% of the time. On the anticyclonic periphery and near the axis the maximum velocities occur below the tropopause 72 to 82% of the time. On the cyclonic periphery the absolute value of the level of maximum velocities lies above the tropopause, although the level lies below the tropopause in 45 to 60% of the cases and only in 36 to 42% of the cases does it lie above.

Bukhov, Ye. D.
WEATHER ANALYSIS AND FORECASTING BY SUPERIMPOSING A MAP OF THE TROPOPAUSE OF AN AT-300 MAP. 20 Nov [59] 3p. JPRS: L-1082-N.
Order from OTS $0.50 60-11047

Trans. of *Meteoroligiya i Gidrologiya (USSR) 1959, no. 4, p. 51.

A map of the tropopause was superimposed on an AT_{300} map. This revealed that in the regions where the contour lines of the map of the tropopause intersect the contour lines of AT_{300}, centers of cyclones and wave disturbances, are manifested on the ground maps and a change in the sign of the front is also observed. The same thing occurs in the places where the contour lines of both maps may remain parallel but where the currents are opposite in direction. In case of parallelism of contour lines on both maps and identical direction of the movement of air masses on them, a low-gradient field is observed on the ground map, in which connection the denseness of the contour lines on the charts of both surfaces may be quite considerable. If the tropopause layer is situated above the 200-millibar surface, the map of the tropopause should be superimposed on an AT_{200} map. In the event the lower boundary of the tropopause lies below the altitude of the 300-millibar surface, the map of the tropopause has to be superimposed on an AT_{400} map. The foregoing rules permit detecting wave disturbances in their incipient stage and tropospheric waves. If the contour lines originally intersected each other and subsequently become mutually parallel, the cyclones and waves may be expected to attenuate; conversely, if the contour lines will subsequently mutually intersect, a wave disturbance is to be expected in the given region. If the contour lines of both surfaces in question become mutually parallel and if the air flow on both surfaces proceeds in the identical direction, then a low-gradient field forms at the earth's surface and the wind weakens.

Drogajcev, D. A.
LONG-RANGE PROGNOSIS OF PRECIPITATION IN CZECHOSLOVAKIA. 8 June 59, 12p. (3 figs. omitted) 12 refs. JPRS: L-1691-D.
Order from OTS $0.50 59-11637

Trans. of Meteorologicke Zpravy (Czechoslovakia) 1958 [v. 11] no. 4/5, p. 119-122.

This article deals with the qualitative and quantitative evaluation of the meridional transport of heat and cold in the atmosphere in the prewinter season, whose deviations over a period of many years are physically closely connected with the deviation of the atmospheric circulation and thus with precipitation changes of the vegetative season from year to year. The article cites examples of the draught formation in 1947 and the moist year 1951. The series of 19 years forms the basis for substantiating a connection between the heavy precipitation from April through June R and through July P with a parameter of the preceding prewinter season D. (Author)

Faust, Heinrich.
THE JET STREAMS AS PHENOMENA OF THE NULL LAYER (Die Strahlströme als Erscheinungen der Nullschicht) tr. by Valys Zilius and Rudolf Loeser. Apr 59 [25]p. 25 refs.
Order from LC or SLA mi$2.70, ph$4.80 59-18265

Trans. of Meteorologische Rundschau (West Germany) 1954, v. 7, no. 9/10, p. 161-166.

The layer of maximum wind velocity, situated on the average 1 km below the tropopause, in which the vertical motions are on the average zero, i.e. the "null layer," is found to be the principal site of ageostrophic mass flow from regions of low pressure to regions of high pressure. On an average the winds in the null layer are supergradient and, since jet streams are a phenomenon of the null layer, the winds in the jet streams are also supergradient. Application of the null-layer results obtained thus far to jet streams certainly define the sense of direction of the vertical and ageostrophic horizontal circulation, which is superimposed on the general jet stream velocity: accordingly, as in the case of a pair of pressure formations extending far aloft and as in the case of the planetary west drift, the dynamics of the jet stream correspond to a cold engine which uses descending warm air and ascending cold air and whose necessary energy pump is the "null layer effect," which is active ageostrophic flow toward high pressure at the level of the null layer. The null layer effect, which is proportional to the horizontal pressure gradient, also explains the crowding of isohypses in the immediate vicinity of the jet stream. The possibilities of future practical application of the results (which at present are only in the form of statistical averages) to individual cases are discussed in this paper. (Author)

Glomozda, A. A.
FORTY YEARS OF HYDROMETEOROLOGICAL SERVICE IN THE BELORUSSIAN SSR. 12 Nov 59, 7p. JPRS: L-1064-N.
Order from OTS $0.50 60-11026

Trans. of *Meteorologiya i Gidrologiya (USSR) 1959, no. 2, p. 28-30.

Kashin, K. I. and Gritsenko, M. V.
EFFECT OF ADVECTION OF DIFFERENT LAYERS OF THE ATMOSPHERE ON THE MOVEMENT OF CYCLONES AND ANTICYCLONES.
12 Nov 59, 11p. 8 refs. JPRS: L-1065-N.
Order from OTS $0.50 60-11027

Trans. of *Meteorologiya i Gidrologiya (USSR) 1959, no. 2, p. 30-35.

Kats, A. L.
GENERAL CIRCULATION INDEX AS AN INDICATOI FOR ZONAL AND MERIDIONAL SYNOPTIC PROCESSES. 19 Nov 59, 9p. 4 refs. JPRS: L-1075-N.
Order from OTS $0.50 60-11039

Trans. of *Meteorologiya i Gidrologiya (USSR) 1959, no. 5, p. 3-8.

Khmaladze, G. N.
SCIENTIFIC SESSION AT THE TBILISI SCIENTIFIC RESEARCH HYDROMETEOROLOGICAL INSTITUTE.
12 Nov 59, 3p. JPRS: L-1068-N.
Order from OTS $0.50 60-11030

Trans. of *Meteorologiya i Gidrologiya (USSR) 1959, no. 2, p. 70-71.

Topics are noted of reports that were presented at the session held in May 1958.

Klibashev, K. P.
CONFERENCE OF THE SCIENTIFIC COUNCIL OF THE STATE HYDROLOGICAL INSTITUTE ON THE PROGRESS OF SCIENTIFIC RESEARCH WORK IN 1958. 19 Nov 59, 4p. JPRS: L-1079-N.
Order from OTS $0.50 60-11043

Trans. of *Meteorologiya i Gidrologiya (USSR) 1959, no. 5, p. 62-63.

Topics are noted of papers that were presented at the conference, which was held Jan 12 to 17, 1959.

Mashkovich, S. A.
ALL-UNION CONFERENCE ON THE THEORY OF PRESSURE VARIATIONS AND THE PROCESSES OF CYCLONE AND ANTICYCLONE GENESIS.
9 Nov 59, 3p. JPRS: L-1057-N.
Order from OTS $0.50 60-11016

Trans. of *Meteorologiya i Gidrologiya (USSR) 1959, no. 3, p. 63-64.

Principal topics covered by the papers given at the December 1958 conference in Moscow are listed.

Pogosyan, Kh. P.
THE STRATOSPHERIC JET STREAM IN THE COLD HALF OF THE YEAR. 12 Nov 59, 11p. 2 refs. JPRS: L-1063-N.
Order from OTS $0.50 60-11025

Trans. of *Meteorologiya i Gidrologiya (USSR) 1959, no. 2, p. 15-21.

The primary task was the determination of the regime of temperature, wind and jet streams in the cold half of 1957/1958. For this purpose there were constructed mean monthly vertical cross-sections for the period from September 1957 to April 1958 between the Equator and North Pole. An analysis of the cross-sections showed that during the transitional months of the year, i. e., in September, October and March, the temperature distribution in the lower stratosphere over the middle and high latitudes approximates the isothermal state. Therefore, above the tropopause, wind velocities usually do not increase but, changing little with altitude, remain of the same order as on the tropopause. Conversely, in the winter months, in accordance with the temperature distribution, wind velocities rise considerably with altitude. Between the equator and pole along the line of the cross-section in the troposphere two principal jet streams are manifested: the subtropical and the extra-tropical. The former, from fall to winter, grows in intensity and shifts from the region of the Armenian Uplands toward Mesopotamia and the Bahrein Islands; the latter most often manifests itself over the middle belt of European USSR.

Slobodov, B. Ya.
L. S. GANDIN, D. L. LAYKHTMAN, YE. A. SOPOTS'KO, M. V. SHLANEVA "PROBLEM BOOK ON DYNAMIC METEOROLOGY", EDITOR: D. L. LAYKHTMAN. 12 Nov 59, 4p. JPRS: L-1066-N.
Order from OTS $0.50 60-11028

Trans. of *Meteorologiya i Gidrologiya (USSR) 1959, no. 2, p. 62-63.

An encomium.

Tauber, G. M.
AEROMETEOROLOGICAL INVESTIGATIONS IN ANTARCTICA BY THE FIRST SOVIET ANTARCTIC EXPEDITION, 1955-1957 (Aerometeorologicheskiye Issledovaniya v Antarktike I Sovetskoy Antarkticheskoy Ekspeditsii 1955-1957 gg) tr. by Geraldine Kline and David Kraus. Jan 59 [16]p. T-R-178+.
Order from LC or SLA mi$2.40, ph$3.30 59-22398

Trans. of Meteorologiya i Gidrologiya (USSR) 1957, no. 6, p. 3-11.

Tsyganov, G. P.
EXPERIENCE IN METEOROLOGICAL ASSISTANCE TO THE REGIONAL DISPATCH SERVICE AND USE OF THE RUPOR RADAR STATION FOR THE AIR WEATHER STATION OF THE CIVIL AIR FLEET (AMSG) AT ROSTOV-ON-THE DON (Opyt Meteorologicheskogo Obsluzhivaniya Rayonnoy Dispetcherskoy Sluzhby i Ispol'zovaniya

Radiolokatsionnoy Stantsii RUPOR na AMSG Rostov-na-Donu) tr. by Valys Zilius. Aug 59 [5]p. T-R-219+; AD-226 730.
Order from LC or SLA mi$1. 80, ph$1. 80 59-19049

Trans. of Meteorologiya i Gidrologiya (USSR) 1957, no. 6, p. 46-47.
Another translation is available from OTS $0. 50 as 59-11596, JPRS(DC)-L-898, 24 Aug 59, 4p.

Problems of active meteorological servicing of flights of planes of the GVF [Civil Air Fleet] can be solved successfully by weathermen of the tower control area. It is expedient to perfect and strengthen this form of meteorological servicing of plane flights. The radar station permits the determination with adequate accuracy of direction and velocity of thunderstorm foci moving in space; consequently, the problem of predicting the beginning of thunderstorm activity in the vicinity of the airport with a RUPOR station is considerably simplified. (Author's conclusions)

Vetlov, I. P.
METHOD FOR THE DETERMINATION OF LOCAL PRESSURE VARIATIONS FROM WIND INFORMATION. 24 Nov 59, 13p. 8 refs. JPRS: L-1076-N.
Order from OTS $0. 50 60-11040

Trans. of *Meteorologiya i Gidrologiya (USSR) 1959, no. 5, p. 9-17.

Compared with currently known solutions, the present study offers a somewhat different solution of the problem of determining velocity and acceleration in the local change in the geopotential of isobaric surfaces. Despite the exclusion of a number of customarily admitted simplifications (conservation of terms with vertical velocity in equations of motion, determination of the share of vorticity advection upon partial employment of the hypothesis of quasigeostrophicity, and others), the herein offered formulas of velocity and acceleration of the change in geopotential are of a comparatively simple form, suitable for the purposes of qualitative analysis and quantitative calculation. In particular, these formulas do not contain higher-order derivatives, whose calculation involves large errors. The comparatively simple form of these formulas has been reached by utilizing the properties of multiple integrals and by using wind data, in which connection the calculation of wind derivatives is excluded from the formula of the velocity of change in geopotential H. (Author)

Voronova, N. V.
USE OF ELECTRODYNAMIC ANALOGY TO CALCULATE THERMAL INTENSIFICATION OF WIND.
20 Nov 59, 8p. 3 refs. JPRS: L-1081-N.
Order from OTS $0. 50 60-11046

Trans. of *Meteorologiya i Gidrologiya (USSR) 1959, no. 4, p. 35-39.

The change in monsoon intensity with increasing distance from the shore is traced according to the temperature field of the monsoon.

Yudin, M. I. and Shvetz, M. E.
A STATIONARY MODEL FOR THE DISTRIBUTION OF WIND WITH HEIGHT IN A TURBULENT ATMOSPHERE (Statsionarnaya Model' Raspredeleniya Vetra s Vysotoy v Turbulentnoy Atmosfere). Feb 59 [15]p. 7 refs. TIL/T. 4882; M 365.
Order from LC or SLA mi$2. 40, ph$3. 30 59-22434

Trans. of Glav[naya] Geofiz[icheskaya] Obs[ervatoriya, Leningrad]. Trud[y] (USSR) 1940, v. 31, no. 8, p. 42-52.

Zolotukhin, A. A.
TASKS OF THE HYDROMETEOROLOGICAL SERVICE IN THE LIGHT OF THE 21ST SESSION OF THE COMMUNIST PARTY. 20 Nov 59, 21p.
JPRS: L-1080-N.
Order from OTS $0. 75 60-11044

Trans. of *Meteorologiya i Gidrologiya (USSR) 1959, no. 4, p. 3-25.

Geodesy

Shokin, P. F.
EFFECT OF THE INCLINATION OF THE SN-3 GRAVIMETER ON ZERO POINT VARIATIONS.
13 Nov 59, 16p. 4 refs. JPRS: L-1934-D.
Order from OTS $0. 50 59-31035

Trans. of Izvestiya Vysshikh Uchebnykh Zavedeniy. Geodeziya i Aerofotos"yemka (USSR) 1959, no. 3, p. 109-117.

The presence of a sharply expressed anomaly in the zero point variation of a gravimeter as a result of the aftereffect of an inclination of the instrument at an angle greater than 2^{o} or 3^{o} was demonstrated experimentally. This effect can be observed when the duration of the inclination ranges from 2 to 15 hours. The effect caused by the anomaly consists in a sharp and systematic reduction in the velocity of zero point variation during the time of inclination of the gravimeter, and also in a sharp systematic increase of this velocity after the instrument is brought from an inclined position into an operating position. The aftereffect exerts its greatest action during the first 1 or 2 hours. The normal velocity of zero point variation is restored, as a rule, after 4 to 6 hours following inclinations at an angle of 2^{o} to 5^{o}, and only after 8 to 12 hours following inclinations at an angle of 15^{o} to 30^{o}. The zero point variation caused by the aftereffect of an inclination at an angle greater than 5^{o} can be determined analytically by the empirical formula: $gr = A h^{m}$ mgl, where h is the time in hours, and A and m are parameters which are constant for a definite angle of inclination. The parameter m is close to 0. 5, while the parameter A increases when the angle of inclination is increased 7 to 10 times in relation to its normal value (in case the aftereffect of the inclination is absent). An increase in parameter A results in a corresponding increase (up to 7 to 10

times) of the velocity of zero point variation 1 hour after the instrument is brought from an inclined position back into an operating position. When the instrument is allowed to remain in an inclined position during intervals between measurements, the results of field observations can be substantially distorted under the action of the effect observed above, as a result of the introduction of systematic errors which are rather difficult to determine directly.

Yudin, M. I.
DETERMINATION OF THE POSITION OF A POINT ON A PLANE TAKING ACCOUNT OF SYSTEMATIC ERRORS OF MEASUREMENTS (Opredeleniye Polozheniya Tochki na Ploskosti s Uchetom Sistematicheskikh Oshibok Izmereniy) tr. by Marcel I. Weinreich. 29 July 59, 20p. 7 refs.
Order from LC or SLA mi$2.40, ph$3.30 SCL-T-266

Trans. of Glav[naya] Geof[izicheskaya] Obs[ervatoriya] Leningrad. [Trudy] 1956, no. 56 (118) p. 69-78.

This theoretical study is of interest to aerial navigation as well as in its application to meteorological balloons. (Author)

Oceanography

Chaplygin, Ye. I.
NEW MODELS OF OCEANOGRAPHIC APPARATUS, tr. by E. R. Hope. July 59 [5]p. 1 ref. T 327 R.
Order from NRCC mi$0.50, ph$1.50 NRCC C-3131

Trans. of Problemy Arktiki (USSR) 1958, no. 3, p. 106-108.

Descriptions are presented of (1) the Arctic Institute's modernized light-weight bathometer (Methods Station Model), and (2) an ice-measuring line for taking the thickness of ice through a manually bored hole.

Muromtsev, A. M.
SCHEME OF GENERAL CIRCULATION OF THE PACIFIC OCEAN WATERS [Skhema Obshchey Tsirkulyatsii vod Tikhogo Okeana] tr. by E. R. Hope. July 59 [9]p. 8 refs. T 323 R.
Order from NRCC mi$0.50, ph$1.50 NRCC C-3139

Trans. of Akad[emiya] Nauk SSSR. Izv[estiya. Seriya Geograficheskaya] 1958, no. 4, p. 24-32.

Distribution-charts of temperature and salinity on standard horizons from the surface to a depth of 5000 m, vertical profiles of these data for each ten-degree zone of latitude and longitude, and vertical distribution profiles for oxygen were used to construct diagrams of the currents on different horizons and on different meridional profiles. The general circulatory scheme of the Pacific Ocean waters indicates that the principal source of water supply to this ocean is located in the high southerly latitudes. From here the water is propagated at all depths over the southern regions and passes, by way of the deep currents and bottom currents, into the northern part of the ocean, and thence into the Okhotsk and Bering Seas. In these seas the deep waters, like the overlying intermediate and subsurface waters, are gradually transformed; they rise in cyclonic eddies to the surface and turn back toward the ocean in the form of surface waters, feeding the northern part of the ocean. In the convergence zones these waters descend into the deep strata and are carried by the upper deep current to the south, where the general eastern transport takes them out into the Atlantic Ocean. The general circulation of the Pacific Ocean waters is therefore completed in the southermost latitudes.

Steinmann, G.
A REEF-BUILDING NUBECULARIA FROM THE SARMATIAN STAGE (N. CAESPITOSA N. F.). [1959] 5p.
Order from ATS ATS-05K23G

Trans. of K. K. Naturhist[orisches] Hofmuseum [Vienna]. Ann[alen] (Austria) 1902, v. 17, p. 112-116.

Physics of the Atmosphere

Gusev, V. D.
DETERMINATION OF ε_{eff} IN THE IONOSPHERE. [1959] 4p. 2 refs.
Order from MDF $2.00 MDF G-166

Trans. of Moscow U. Vestnik. [Seriya] Mat[ematiki] Mekh[aniki] Astron[omii, Fiziki, Khimii] (USSR) 1959, v. 14, no. 1, p. 105-108.

The problem is considered for an isotropic medium and a monotonic change in the properties of the ionosphere with altitude.

Khvostikov, I. A.
OZONE IN THE STRATOSPHERE (Ozon v Stratosfere) tr. by Richard Holden and David Kraus. June 59 [91]p. 134 refs. T-R-206, AD-226 782.
Order from LC or SLA mi$5.40, ph$15.30 59-19289

Trans. of Uspekhi Fizicheskikh Nauk (USSR) 1956, v. 59, no. 2, p. 229-323.

Kuchay, S. A. and Rosenthal, I. L.
THE NATURE OF NARROW ATMOSPHERIC SHOWERS. [1959] [3]p. 7 refs. T/L 531; M185.
Order from LC or SLA mi$1.80, ph$1.80 59-19079

Trans. of [Akademiya Nauk SSSR. Doklady, 1948, v. 60, no. 9, p. 1523-1526.

Leykin, G. A.
A SONDE FOR MEASURING DENSITY AND TEM-

PERATURE WHEN MOVING AT SUPERSONIC VELOCITY IN A HIGHLY RAREFIED MEDIUM (Zond dlya Izmereniya Plotnosti i Temperatury pri Dvizhenii so Sverkhzvukovoy Skorost'yu v Sil'no Razrezhennoy Srede) tr. by John Miller. Sep 58 [4]p. T-R-148+.
Order from LC or SLA mi$1.80, ph$1.80 59-22213

Trans. of *Akademiya Nauk SSSR. Izvestiya. Seriya Geofizicheskaya, 1958, no. 4, p. [558-559].

The proposed sonde makes use of the fact that the thermal velocities of particles of the medium, although much lower than their velocities relative to the body, are nevertheless high, and cause washout of the corpuscular shadow [umbra] which is the greater, the higher the temperature of the medium.

Slobodov, B. Ya.
CHANGES IN THE VERTICAL TEMPERATURE GRADIENTS AND FLUCTUATIONS IN THE HEIGHT OF THE TROPOPAUSE. 9 Nov 59, 7p. 4 refs. JPRS: L-1054-N.
Order from OTS $0.50 60-11019

Trans. of Meteorologiya i Gidrologiya (USSR) 1959, no. 3, p. 41-43.

An analysis reveals that the local variations in vertical temperature gradients during adiabatic processes occur as a consequence of: (1) advection, both horizontal and vertical of these gradients; (2) temperature advection; (3) local variations in pressure; (4) vertical motions; and (5) altitude dependence of the vertical velocity component. Inasmuch as the magnitude of the vertical temperature gradient is the principal criterion for determining the height of the tropopause, it is obvious that the fluctuations in that height at adiabatic processes also are dictated by precisely the same causes.

ENGINEERING

Bazhenov, I. I. and others.
THE COAL INDUSTRY OF CZECHOSLOVAKIA. [1959] 63p. (figs. tables omitted)
Order from LC or SLA mi$3.90, ph$10.80 59-22373

Trans. of Russian mono. Ugol'naya Promyshlennost' Chekhoslovakii, 1958, 264p.

This work is not a verbatim translation. It comprises a thorough revision of Chapters I, II, VI, and VII, and a selection of abstracts, tables, lists, and illustrations from the remaining chapters. It should be used with the original book for the identification of tabular and illustrative material.

Bodner, V. A., Seleznev, V. P., and Ovcharov, V. Ye.
ON THE THEORY OF INERTIAL DAMPED SYSTEMS WITH AN ARBITRARY PERIOD, WHICH ARE INVARIANT WITH RESPECT TO THE OBJECT'S MANEUVERING. 18 Nov 59, 15p. 4 refs. JPRS: 2006-N.
Order from OTS $0.50 60-11059

Trans. of Akademiya Nauk SSSR. O[tdeleniye] T[ekhnicheskikh Nauk]. Izvestiya: Energetika i Avtomatika, 1959, no. 3, p. 11-18.

Consideration is given to procedures of damping for inertial guidance systems, the utilization of external information for damping and alteration of the period, the analysis of errors of an inertial system with an arbitrary period, and the effect of the object's velocity on the operation of an inertial system. The analysis shows that to evolve damped inertial systems with an arbitrary period it is necessary to have external information, which can be transmitted to the system either discretely or continuously. On a discrete transmission of information the pauses may be arbitrary. It is also possible to visualize inertial systems in which external information is utilized only during the initial moment of their operation (for elimination of the initial deviations). Thereafter such systems continue to function like those of M. Shuler.

Kun, Bela.
TECHNICAL AND ECONOMIC PROBLEMS OF ORE MINING AT GYONGYOSOROSZI. 3 June 59, 37p. (10 figs. omitted). JPRS: L-1220-D.
Order from OTS $0.50 59-11362

Trans. of Banyaszati Lapok (Hungary) 1958 [v. 13] no. 5, p. 295-309 and no. 6, p. 373-374, 378, 380.

Factors which have the greatest influence on the economy of lead and zinc production are summarized. A brief view of the entire operation at the Gyongyosorosz plant is presented. The large number of variables which the technicians must take into consideration is cited, and the point is made that systematic experimentation cannot be conducted in a plant which must operate under a strenuous production schedule without an adequately founded technology. Ore mining at Gyongyosorosz is considered to be economical, despite the present apparent deficit and the need for state appropriated funds, but a final determination of what is worthwhile to produce at this plant cannot be made at this time.

Smolitskiy, Kh. L. and Chukreyev, P. A.
A COMPARISON OF SYSTEMS' RELIABILITY IN THE CASE OF REDUNDANCY IN INDIVIDUAL COMPONENTS AND THE SYSTEM AS A WHOLE. 18 Nov 59, 6p. 3 refs. JPRS: 2007-N.
Order from OTS $0.50 60-11054

Trans. of Akademiya Nauk SSSR. O[tdeleniye] T[ekhnicheskikh Nauk]. Izvestiya: Energetika i Avtomatika, 1959, no. 3, p. 176-178.

It is demonstrated that redundancy in individual components is more advantageous than an overall redundancy, for any values of probability of components failure. To enhance reliability of equipment it is not required to render all components of the system redundant by an equal number of components, i.e., it is not mandatory that all components of the equipment be duplicated m times. Greater probability of flawless operation will be attained with the same number of

redundant components if the least reliable components are provided with more redundant components, and the most reliable are provided with fewer such components.

Aeronautical Engineering

Kulebakin, V. S. and Nagorskiy, V. D.
ELECTRIC MOTORS FOR SPINNING LANDING GEAR WHEELS. 5 Oct 59 [7]p. 1 ref. AF 1256154.
Order from LC or SLA mi$1.80, ph$1.80 59-22152

Summary trans. of mono. Elektroprivod Samoletnykh Agregatov i Mekhanizmov, Moscow, 1958, chap. 11, para. 12.6, p. 365-368.

See also 59-22154

Kulebakin, V. S. and Nagorskiy, V. D.
ELECTRIC MOTORS USED FOR DRIVING AIRCRAFT MECHANISMS AND UNITS. 23 Sep 59 [11]p. (14 figs. omitted) 2 refs. AF 1256115.
Order from LC or SLA mi$2.40, ph$3.30 59-22154

Summary trans. of excerpts of mono. Elektroprivod Samoletnykh Agregatov i Mekhanizmov, Moscow, 1958, chap. 2, para. 2.2, p. 36-46.

See also 59-22152

Richter, E.
STAINLESS STEEL BOLTS FOR AIRCRAFT. [1960].
Order from BISI £3 BISITS 1525

Trans. of Luftfahrttechnik (West Germany) 1959 [v. 5] Feb, p. 58-60.

Stainless steel bolts have many advantages in aircraft construction. Materials for such bolts and their strengths are discussed, together with the manufacture of stainless bolts and nuts. The danger of seizing is discussed in detail. Safety devices, and self-locking bolts and nuts, are also mentioned; and the application of "PH steels" is touched on. (Author's summary)

Vedrov, V. S., Romanov, G. L., and Surina, V. N.
THE AIRPLANE AS AN OBJECT OF CONTROL; BLOCK DIAGRAMS OF THE EQUATIONS OF PERTURBED AIRPLANE MOTION. Oct 59, 52p. 15 refs. Technical Trans. F-5.
Order from OTS $1.50 59-21195

Trans. of mono. pub. as Ministry of Aviation Industry (USSR). Rept.-74.

This work considers the presentation of equations for the perturbed motion of an airplane in the form of single-loop block diagrams. A brief analysis is given of the characteristics of the individual links and of their change with changing flight speed and altitude. A derivation of transfer functions for control with elevator, rudder, and aileron is presented, as well as simplified expressions for the transfer functions, depending on the frequency range, which corresponds to breaking up the perturbed motion into simple types. The representation of the equations of perturbed airplane motion in the form of single-loop block diagrams permits a simple and easy application of contemporary methods of control theory to the analysis of airplane motion, and also allows rapid formulation of simplified equations of motion and transfer functions applicable during control with the control elements. (Author)

Chemical Engineering

MANUFACTURE OF ISOPRENE. 25 Nov 59 [7]p.
Order from LC or SLA mi$1.80, ph$1.80 60-14024

Trans. of Belgian patent 5/5326, 3 Feb 59 and 3 Aug 59 (Priority: France, 4 Feb 58, no. 757,428) by Pechiney, Compagnie de Produits Chimiques et Electrometallurgies, Paris, France.

The invention consists, primarily, of inducing isomerization of the dimerization product of propylene, before pyrolysis, which should lead to the production of isoprene. This isomerization consists solely in shifting the double bond to the interior of the molecule but with exclusion of all structural modifications, such as, for example, the migration of a radical. In the known processes, the dimerization of propylene actually leads to a mixture of the isomers of hexene, such as methyl-2-pentene-1, methyl-2-pentene-2, methyl-3-pentene-1, etc. Thermal decomposition takes place with fractions containing especially the three substances which are to be cited. The invention is based on the observation that the formation of isoprene results in particular from the cracking of methyl-2-pentene-2. Consequently, the isomerization of methyl-2-pentene to methyl-2-pentene-2 before pyrolysis increases the proportion of useful constituents in the mixture. The isoprene yield is thus very considerably enhanced with respect to that which is obtained with the known processes, where one subjects the over-all mixture, containing principally the three hexenes indicated above, to cracking. The chemical scheme of the process of the invention, not taking into account the by-products, can be represented by the following reactions:

$$2\ CH_2{=}CH{-}CH_3 \rightarrow CH_2{=}C(CH_3){-}CH_2{-}CH_2{-}CH_3,$$

$$(CH_2{=}CH{-}CH_3)_2 \rightarrow CH_3{-}C(CH_3){=}CH{-}CH_2{-}CH_3,$$

and

$$CH_3{-}C(CH_3){=}CH{-}CH_2{-}CH_3 \rightarrow CH_2{=}C(CH_3){-}CH{=}CH_2{-}CH_4.$$

Boyer, A. F. and Lahouste, J.
CAN FISSURING OF COKE BE FORECAST IN THE CONTROL LABORATORY? [1960].
Order from BISI £2 5s BISITS 1575

Trans. of Indust[rie] Chim[ique] Belg[e] 1954, Sep, spec. no, p. 29-32.

Mechanism is discussed and the use of dilatometry, resolidification temperature and a curvature test and their interpretations are described. (J.I.S.I. Abstract)

Fetting, F. and Wicke, E.
FLOW PATTERN AND HEAT CONDUCTION IN FLUIDIZED BEDS, tr. by H. A. F. [1959] 27p. 15 refs. No. 8695.
Order from LC or SLA mi$2.70, ph$4.80 AEC-tr-3648

Trans. of Dechema Monograph[ien] (West Germany) 1955, no. 24, p. 146-169.

Franck, H. Heinrich.
NEW SYNTHETIC METHODS IN THE MANUFACTURE OF FATS AND OILS. [1959] 8p. 6 refs.
Order from SLA mi$1.80, ph$1.80 60-10781

Trans. of Chimie et Industrie (France) 1934 [v. 31] Apr, spec. no, p. 889-893.

Germany was forced, during the war, to develop extensively her production of fats. Here is given, in a sort of outline, the synthetic or semi-synthetic processes for the manufacture of materials similar to natural products: these processes make use of hydrogenation under high pressure and catalytic oxidation especially. On the other hand, certain processes also improve the yield and the quality of refined products, and some of these fatty acids can be esterified again that used to be considered waste products. Finally, processes for centralizing fatty substances are described. (Author)

Lenchevskiy, O. S.
INDUSTRIAL INSTALLATIONS FOR ELECTROCHEMICAL DE-SALTING OF WATER. [1959] [12]p. (8 figs. omitted) 3 refs. M 374.
Order from LC or SLA mi$2.40, ph$3.30 59-22443

Trans. of unidentified Russian mono.

Lotson, R. and Boyer, A. F.
THE INFLUENCE OF THE PROPERTIES OF THE CONSTITUENTS OF THE BLEND ON THE FISSURING OF COKE. [1960].
Order from BISI £5 10s BISITS 1574

Trans. of Centenary Congress of the Societe de l'Industrie Minerale, Paris, 1955, June. Paper SA 1, p. 1-16.

Laboratory studies of the contraction and cracking of coke during the coking process are described in detail. Results are compared with plant observations and the importance of the contraction rate in the vicinity of the solidification point is stressed. Cracking prevention by addition of high grade coals and inert materials is discussed. (J.I.S.I. Abstract)

Mackowsky, M. Th.
RESULTS OF THE MICROSCOPIC EXAMINATION OF COKE BY MEANS OF VERY DIFFERENT METHODS OF INVESTIGATION. [1959].
Order from MDF MDF M-119

Trans. of Brennstoff-Chemie (West Germany) 1955 [v. 36] no. 19/20, p. 304-314.

Proskhin, A. A. and Podkovyrova, L. M.
CRACKING SULFUROUS CRUDES (Krekirovaniye Sernistykh Neftey). 25 Sep 59 [8]p. AF 1256121.
Order from LC or SLA mi$1.80, ph$1.80 59-22159

Trans. of Neftyanik (USSR) 1958 [v. 3] no. 10, p. 14-17.

Titov, N. G., ed.
CONTINUOUS COKING OF COAL (Nepreryvnoye Koksovaniye Ugley). Contents. [1959] [3]p.
Order from LC or SLA mi$1.80, ph$1.80 59-22346

Partial trans. (contents) of Akademiya Nauk SSSR. Institut Goryuchikh Iskopayemykh. Trudy 1959, v. 10.

Civil Engineering

SNOW LOAD ON BUILDINGS, tr. by D. E. Allen. 1959, 63p. 9 refs. Technical Trans. 830.
Order from NRCC NRC TT-830

Contents:

1. Snow loads on buildings, by A. F. Nikolayev Trans. of Stroitel' (USSR) 1935, v. 8, no. 10, p. 18-26.
2. Snow loads specified by the Russian building code. Trans. of [Russian] mono. Stroitel'nyye Normy i Pravila, pt. II, sect. B, chap. 1, para. 4, p. 46-48.
3. Unsolved problems in regions of intense snowfall, by V. P. Abovskiy, A. M. Veksman and others. Trans. of Stroitel'naya Promyshlennost' (USSR) 1954 [v. 32] no. 11, p. 30-31.
4. The problem of snow load specification, by E. D. Kan-Khut. Trans. of Stroitel'naya Promyshlennost' (USSR) 1954 [v. 32] no. 12, p. 22-23.
5. Snow loads according to structural standards and regulations, by I. I. Golden'blat, B. G. Korenev and others. Trans. of Stroitel'naya Promyshlennost' (USSR) 1956 [v. 34] no. 6, p. 25-27.
6. Snow loads, by E. D. Kan-Khut. Trans. of Stroitel'naya Promyshlennost' (USSR) 1957 [v. 35] no. 1, p. 50.
7. Lessons from two roof collapses, by A. M. Korablinov and L. S. Krauze. Trans. of Stroitel'naya Promyshlennost' (USSR) 1957 [v. 35] no. 7, p. 18-21.

SOCIETY FOR CULTURAL RELATIONS WITH THE U. S. S. R. BULLETIN OF THE ARCHITECTURE & PLANNING GROUP, 1951, NO. 29. [1959] 10p. 2 refs. M205.
Order from LC or SLA mi$1.80, ph$1.80 59-19099

Contents:
1. The Design of the Block of Flats in Kaluzhska Street, Moscow, by G. Oshchepkov. Trans. from Arkhitektura i Stroitel'stvo (USSR) 1950 [v. 5] no. 8.
2. A British Architect's Impressions of Soviet Post-war Building, by F. W. B. Charles.

Gel'mer, V. O.
HOW TO DETERMINE THE COMPOSITION AND VISCOSITY OF BITUMEN AND TAR BY NOMOGRAMS (Kak Opredelyat' Sostav i Vyazkost' Bituma i Degtya po Nomogrammam). Nov 59 [11]p. RTS no. 1189.
Order from LC or SLA mi$2.40, ph$3.30 59-22722

Trans. of Avtomobil'nyye Dorogi (USSR) 1958, v. 21, no. 7, p. 22-24.

Hsu, Chih-ch'an.
OUTLOOK FOR WATER CONSERVANCY DEVELOPMENT IN NORTH KLANGSU. 20 Nov 59, 16p. JPRS: 2026-N.
Order from OTS $0.50 60-11075

Trans. of Ti-li Chih-shih (Chinese People's Republic) 1959 [v. 9] 14 Feb, p. 53-57.

Contents:
Brief description of natural conditions
Brief description of engineering
Projects carried out since liberation and their effects
Future outlook

Khokholev, K. I. and others.
UTILIZATION OF GRANULATED SLAGS FOR PRODUCING HEAVY PANELLING AND CAST PARTITIONS (Ispol'zovaniye Granulirovannykh Shlakov pri Proizvodstve Krupnopanel'nykh i Litykh Peregorodok) tr. by J. H. Dixon. [1959] [22]p. M547.
Order from LC or SLA mi$2.70, ph$4.80 59-22696

Trans. of mono. Opyt Ispol'zovaniya Domennykh Granulirovannykh Shlakov na Stroykakh Pridneprov'ya (Experience in the Use of Blast Furnace Granulated Slag in Structural Work in the Dnieper Region) Kiev, 1957, p. 97-120.

Kuo, Lai-hsi and Ming, Wang-te.
THE SUNGARI RIVER DRAINAGE BASIN. 9 Nov 59, 17p. JPRS: 2012-N.
Order from OTS $0.50 60-11037

Trans. of Ti-li Chih-shih (Chinese People's Republic) 1958 [v. 9] May, p. 204-207.

Lopatin, B. V. and Lyamin, A. A.
LAYING HEATING PIPES WITHOUT CONDUITS IN A SAND-CEMENT FILLING. [1959] [13]p. (7 figs. omitted) 2 refs. M 361.
Order from LC or SLA mi$2.40, ph$3.30 59-22430

Trans. of unidentified Russian mono.

The pipes are laid in a trench and wrapped in sheets of mineral felt, the outer surface of which is covered with a layer of water-proofing as a protection against dampness. Then the whole space round the insulated heating pipes is filled with a damp sand-cement mixture, which gradually hardens and creates a secure envelope to protect the pipes and water-proofing from mechanical action on the part of the soil. When the pipes lengthen with the rise in temperature, they move within the heat insulating layer of mineral felt on their concrete blocking.

Putkisto, Kalle.
SNOW AS ROAD-BUILDING MATERIAL (Lumi Tienrakennusmateriaalina) tr. by E. Perem. 1959, 32p. 20 refs. Technical Trans. 822.
Order from NRCC NRCC C-3159

Trans. from Tielehti (Finland) 1957 [v. 27] no. 6.

Electrical and Electronic Engineering

CONFERENCE TO MARK THE 40th ANNIVERSARY OF THE NIZHEGOROD RADIOLABORATORY i/n LENIN. [1959] [10]p. M395.
Order from LC or SLA mi$1.80, ph$1.80 59-22463

Trans. of *Radiotekhnika (USSR) 1958, v. 13, no. 8, p. 71-79.

Topics are noted of papers read at the conference, which was held in Gor'ky on May 20 to 24.

ON THE REDUCTION OF THE DELIVERY TIMES AND FURTHER LOWERING OF THE STRUCTURAL COSTS OF POWER STATIONS AND NETWORKS (O Sokrashchenii Srokov i Dal'neyshem Snizhenii Stoimosti Stroitel'stva Elektrostantsii i Setey). 25 May 59 [18]p. M-V. Trans. no. 2541; M 632.
Order from LC or SLA mi$2.40, ph$3.30 59-22620

Trans. of [Elektricheskiye Stantsii] (USSR) 1958, v. 29, no. 5, p. 2-10.

Consideration is given to the construction of thermal power stations; the construction of hydroelectric power stations; and the construction of electricity networks.

THE PENDULUM TELEGRAPH. [1959] 15p. (16 figs. omitted).
Order from SLA mi$2.40, ph$3.30 60-10784

Trans. of unidentified mono. pub. by Siemens and Halske, AG.

The telegraph signals are fed directly to the conductors through a typewriter keyboard, which is similar externally to that of the perforator of the high speed telegraph, and are reproduced on a narrow paper tape at the receiving station. Each symbol (letter, figure or any other sign) consists of five individual current pulses which are in certain combinations, positive or negative, each according to the choice of the symbol; the combinations for the various symbols correspond in their arrangement precisely to those of the high speed telegraph. Since the rotating parts of the transmitter and receiver apparatus come to rest after each individual symbol, a current unit of negative character is first transmitted before each key stroke and before release of the actual signal combination. This current unit effects the release of the receiver; the release of the transmitter is performed by a local current originating at the keyboard. Perforated tape reception and automatic transmission make possible the mutual operation between the high-speed telegraph and the subsidiary telegraph, eliminating manual operation as much as possible. The speed of transmission is adjustable in three stages and amounts to a maximum of 4, 3.5 or 3.0 symbols per second; the duration of a transmitting current impulse amounts to 0.017, 0.024 and 0.030 seconds in the three cases. There are no special devices for the production and maintenance of the parallel operation of transmitter and receiver; the apparatus is ready for operation without the necessity of previous adjustments.

RADIO ENGINEERING, 1958, VOL. 13, NO. 11. Oct 59, 115p.
Order from PP $30.00/year ($15.00/year to individuals)

Trans. of Radiotekhnika (USSR) 1958, v. 13, no. 11, p. 3-[81].

RADIO ENGINEERING, 1959, VOL. 14, NO. 1. Nov 59, 110p.
Order from PP $30.00/year ($15.00/year to individuals)

Trans. of Radiotekhnika (USSR) 1959, v. 14, no. 1, p. 3-77.

RADIO ENGINEERING AND ELECTRONICS, 1958, VOL. 3, NO. 10. Oct 59, 152p.
Order from PP $45.00/year ($22.50/year to individuals)

Trans. of Radiotekhnika i Elektronika (USSR) 1958, v. 3, no. 10, p. 1227-1320.

RADIO ENGINEERING AND ELECTRONICS, 1958, VOL. 3, NO. 12. Oct 59, 1v.
Order from PP $45.00/year ($22.50/year to individuals)

Trans. of Radiotekhnika i Elektronika (USSR) 1958, v. 3, no. 12, p. 1411-1536.

THERMOELECTRICAL REFRIGERATOR (Termoelektrichyeskyi Kholodil'nik) tr. by Vawryk. [1959] [2]p. H 4011.
Order from LC or SLA mi$1.80, ph$1.80 59-19639

Trans. from [Sovetskaya Aviatsiya] (USSR) 1958, 30 Oct.

Everyone of us is interested in the question of the protection of produce from spoiling. Recently our industry created several types of refrigerators, which work on the compressed and the absorbtion principal of cooling. And what does any housewife say, who was contented with a household combine cooler. When a similar thing is acquired, we ordinarily are not able to forsee what kind of constructional inperfections can come up in the process of its exploitation. The present household refrigerators also have deficiencies. The moving parts of the compressor made noise. The freon gas provokes corrosion in the tubes of the refrigerator. From this, with the passing of time, the technical parameters of the refrigerator worsen. Is it possible to escape the mentioned deficiencies and turn out long lasting refrigerating plants? Yes, it is possible. This was shown as a matter of fact by the scientific workers of the Institute of semi-conductors of the Academy of Sciences of the USSR. Here was created a perfect thermoelectric household refrigerator. How is it made? The refrigerator consists of thermoelectrical batteries, which have 48 semiconductor elements. The temperature in the working chamber is from two to four degrees below zero. The power of the batteries comes from alternating current with 127 or 220 volts through a rectifier with germanium valves. Its most value in this, that the refrigerator with thermoelectrical cooling has an unlimited period of service. "Unlimited period" - Let a little more similar things be created for workers - beautiful and good. (The translation is presented above in its entirety).

Andreyev, V. A.
A BALANCED CURRENT-RELAY PROTECTION SYSTEM FOR THREE PARALLEL LINES (Balansnaya Tokovaya Zashchita Trekh Parallel'nykh Linii). 22 Apr 59 [12]p. (6 figs. 25 equations omitted). M-V. Trans. no. 2519; M 415.
Order from LC or SLA mi$2.40, ph$3.30 59-22483

Trans. of *Elektrichestvo (USSR) 1958, no. 1, p. 39-44.

Berezovskiy, A. F.
DISTANCE-TYPE INDUCTION DYNAMIC RELAYS WITH NATURAL BIASING (Distantsionnyye Induktsionno-dinamicheskiye Rele s Yestestvennym Tormoznym Momentom). 22 Apr 59 [6]p. (6 figs.

4 equations omitted). M-V. Trans. no. 2518; M 414.
Order from LC or SLA mi$1.80, ph$1.80 59-22482

Trans. of *Elektrichestvo (USSR) 1957, no. 10, p. 54-56.

Discussions are presented on the theory, operation and construction of an experimental distance-type induction dynamic relay.

Bogoroditskiy, M.
PAPER CONDENSERS OF HIGH SPECIFIC CAPACITY. [1959] 13p. (5 figs. 6 tables omitted) 2 refs.
Order from LC or SLA mi$2.40, ph$3.30 60-10220

Trans. of Izvestiya Elektropromyshlennosti Slabogo Toka (USSR) 1936, no. 1, p. 47-55.

Breisig, F.
CHOICE OF AN INTERNATIONAL STANDARD, PERMITTING THE EVALUATION OF THE TRANSMISSION OF TELEPHONE CONNECTIONS. [1959] 20p. 1 ref.
Order from SLA mi$2.40, ph$3.30 60-10898

Trans. of Annales des Postes Télégraphes et Telephones (France) 1924 [v. 13] Dec, p. 1235-[1249].

Decker, Hans.
THE DANGER OF TWO-WAY LOCKING OF ECHO SUPPRESSORS. [1959] [20]p. 9 refs.
Order from SLA mi$2.40, ph$3.30 60-10819

Trans. of Elektrische Nachrichten-Technik (Germany) 1934, v. 11, no. 7, p. 238-245.

The possibility is discussed that echo suppressors in a long distance telephone connection are locked mutually. An experimental arrangement is described by means of which the probability of two-way locking of echo suppressors can be measured. The probability of two-way locking to a first approximation is shown to be independent of the distance in time between the echo suppressors causing the locking and is dependent only on the total transit time of the long distance telephone connection. When the longest transit time of the connections established in a transit exchange is less than s/5, the danger of two-way locking of echo suppressors is so slight that measures for disconnecting superfluous echo suppressors in a through connection can be dispensed with. (Author) (See also 60-10818)

Decker, Hans.
ELIMINATING THE DANGER OF TWO-WAY LOCKING OF ECHO SUPPRESSORS, tr. by R. T. [1959] [24]p. 5 refs.
Order from SLA mi$2.70, ph$4.80 60-10818

Trans. of Elektrische Nachrichten-Technik (Germany) 1934, v. 11, no. 8, p. 281-288.

Two former suggestions as to how surplus echo suppressors are to be made inoperative for the duration of a through connection are critically reviewed; the disturbance caused by the fact that a telephone subscriber chops up his own speech through an echo suppressor is described in particular; this disturbance occurs everywhere when a telephone connection is equipped with only one pair of echo suppressors and one echo suppressor of this pair is inoperative. A new suggestion for avoiding the danger of two-way locking of echo suppressors is developed and explained embodiment a toll exchange is assumed whose through positions are equipped with a so-called "thinking cord". (Author) (See also 60-10819)

Dunenkov, V. L.
ADJUSTING THE COMMUTATION OF THE DK-103 TRACTION MOTOR (Naladka Kommutatsii Tyagovogo Dvigatelya DK-103). 20 Mar 59 [5]p. (2 figs. omitted) 2 refs. M-V. Trans. no. 2524; M 358.
Order from LC or SLA mi$1.80, ph$1.80 59-22427

Trans. of Elekt[richeskaya i] Teplovoz[naya] Tyaga (USSR) 1958, no. 4, p. 20-22.

The causes of flashover and sparking in the DK-103 traction motor are reviewed, with methods of eliminating these faults.

Düsing, Werner.
VACUUM TIGHT GLASS-TO-METAL SEALS FOR ELECTRICAL ENGINEERING. Dec 59, 19p. 5 refs.
Order from SLA mi$2.40, ph$3.30 60-14033

Trans. of Glastechnische Berichte (West Germany) 1953, v. 26, no. 8, p. 232-238.

There are two kinds of glass-to-metal seals: those with differing and those with matched expansion coefficients of the two materials. Glass-Kovar seals are of the second kind. They can be used to meet any requirement of design. Good thermal shock resistance can be obtained with sinter glass as well as clear glass, provided certain limit values for the expansion of glass and metal are observed. Time lapse photography experiments at high temperatures serve to determine relatively quickly whether a discharge tube will break as a result of glass-electrolysis at normal working temperature. Use of lead glass sometimes reduces adhesion between glass and Kovar. To increase high-frequency conductivity of the sealed in Kovar lead the metal can be coated with high conductivity metal before being joined to the glass. (Author)

Ehlers, W.
LOADING COILS WITH SOLID CORES. [1959] [29]p. 46 refs.
Order from SLA mi$2.70, ph$4.80 60-10817

Trans. of Elektrische Nachrichten-Technik (Germany) 192[8] v. 5, no. 2, p. 121ff.

Epshteyn, L. A. and Petrashko, A. I.
SYNTHETIC POLYMERS IN MICA-BASED ELECTRICAL INSULATION (Sinteticheskiye Polimery v Slyudyanoy elektricheskoy Izolyatsii). 10 June 59

[12]p. (10 figs. omitted) M-V. Trans. no. 2570; M 629.
Order from LC or SLA mi$2.40, ph$3.30 59-22622

Trans. of Elektrichestvo (USSR) 1958, no. 8, p. 21-28.

A review of the new types of mica-based insulation with synthetic polymers as the binding substances, together with characteristic data from tests. (Metropolitan-Vickers abstract)

Fabrikant, V. L.
USING SEMI-CONDUCTORS FOR RELAYING (Ispol'zovaniye Polyprovodnikov v Releynoy Zashchite Zashchite). 15 May 59 [8]p. (8 figs. 2 illus. omitted). M-V. Trans. no. 2568; M 507.
Order from LC or SLA mi$1.80, ph$1.80 59-22556

Trans. of *Elektrichestvo (USSR) 1958, no. 7, p. 41-45.

The prospects for the use of semi-conductors in relay protection are examined with reference to the three basic types of protection relays: complex protective elements, simple protective elements and logical elements.

Geranin, V. A.
THEORY OF LONGITUDINAL MAGNETIC RECORDING OF VARIABLE INTENSITY ON THE TAPE (SIGNALOGRAM). [1959] 11p. 11 refs. T-3065.
Order from LC or SLA mi$2.40, ph$3.30 60-14120

Trans. of Tekhnika Kino i Televideniya (USSR) 1959, v. 3, no. 6, p. 11-16.

An analysis of the frequency characteristics of the surface induction of magnetic recording on coated tape shows that self demagnetization of the longitudinal recorded signal causes the loses expressed by

$$20 \log (kd/1 - e^{-kd}),$$

where d denotes the thickness of the magnetic layer on the tape, $k = 2\pi/\lambda$, and λ is the wavelength of the recorded signal. Previous workers (e.g., R. L. Wallace in Bell Syst. Tech. J. 30: 1145-1173, 1951; E. D. Daniel et al. in Proc. Inst. Elec. Engrs. London 104B: 158-168, 1957; W. K. Westmijze in Philips Research Repts. 8: 181-183 and 255-269, 1953; and A. I. Parfent'ev in Tekhnika Kino i Televideniya 1957: no. 7, 39-47) have considered these loses as being due to the finite thickness of the magnetic layer on the tape.

Hebolyubov, Yu. E.
PHOTOELECTRIC METHOD OF TESTING AND ADJUSTING THE COMMUTATION OF ELECTRICAL MACHINES (Fotoelektricheskiy Metod Issledovaniya i Nastroyki Kommutatsii Elektricheskikh Mashin). 7 May 59 [6]p. (3 figs. illus. omitted). M-V. Trans. no. 2552; M 526.
Order from LC or SLA mi$1.80, ph$1.80 59-22573

Trans. of Elektrichestvo (USSR) 1956, no. 11, p. 34-37.

A photoelectric device used in the investigation of commutation in electrical machines is described and some information is presented on the calibration of the device.

Johnson, K. S.
TRANSMISSION CIRCUITS FOR TELEPHONIC COMMUNICATION (METHODS OF ANALYSIS AND DESIGN) [BOOK REVIEW]. [1959] 3p. 1 ref.
Order from SLA mi$1.80, ph$1.80 60-10897

Trans. from Annales des Postes Télégraphes et Téléphones (France) 1924, v. 13, no. 12.

Korenberg, E. B.
ON CERTAIN GENERAL PROPERTIES OF ANTENNA DIRECTIVITY CHARACTERISTICS. [1959] 5p. 5 refs.
Order from MDF $2.50 MDF K-200

Trans. of *Radiotekh[nika] (USSR) 1959, v. 14, no. 9, p. 13-16.

It is shown that mutual orientations always exist for coupled receiving and transmitting antennas in free space, for which coupling is absent and the polarization properties have been determined of directivity characteristics of antennas without energy nulls. (Author)

Mamikonyants, L. G.
FORMULAE FOR THE REACTIVE VA OF A SYNCHRONOUS MACHINE DURING ASYNCHRONOUS OPERATION (Opredeleniyye Reaktivnoy Moshchnosti Sinkhronnoy Mashiny pri Asinkhronnom Rezhime). 8 Jan 59 [4]p. (4 diagrams omitted). M-V. Trans. no. 2501; M527.
Order from LC or SLA mi$1.80, ph$1.80 59-22574

Trans. of Elektrichestvo (USSR) 1958, no. 3, p. 35-36.

Nikonov, B. P.
NEW MATERIALS FOR CORES OF OXIDE CATHODES. Sep 59, 24p. 9 refs.
Order from LC or SLA mi$2.70, ph$4.80 60-10571

Trans. of Ministerstvo Radiotekh[nicheskoy] Promyshlennosti. Nauch[no]-Issledovatel['skiy] Insti[itut]. Trudy (USSR) 1956, no. 1, p. 17-33.

As a result of experiments, nickel with calcium (0.1 to 0.2%) alloy is recommended for extensive application as cores of indirectly heated oxide cathodes. Cathodes prepared from this alloy are expedient for tubes with a high current yield in steady and pulsed systems, tubes with a low cathode temperature, tubes activated with difficulty which are stable and have a long life time, tubes with a short life time. The same alloy with a hardening agent (tungsten 3 to 5%) is recommended for cathode cores of mechanically stable tubes. The same alloy with 10 to 12% tungsten is recommended for vacuum tube (hot-cathode) rectifiers and hot-cathode gas-discharge rectifiers, and their directly heated cathodes.

Podliasky, [1]
FUNDAMENTALS OF TOEPLER'S LAW AND ITS EXTENSION. [1959] 27p. (foreign text included). IP-16.
Order from LC or SLA mi$2.70, ph$4.80
AEC-tr-3703

Trans. of mono. Fondements de la Loi de Toepler et l'Extension de Celle-ci, 1 Jan 57.

A more general and correct form of Toepler's law is given, which seems to be applicable to all sufficiently brief and intense discharges in gases. A second attempt is made (the first was made by M. G. Ahier) at a "microscopic" justification of the formula which was experimentally established by Toepler and his followers. The hypotheses with which it is possible to support Toepler's law is explained. This leads to a more correct form (the length of the discharge intervening explicitly at the root, instead of the first power, which conforms to certain experiments), and delimits the area of application. (Extracted from the report)

Rips, Ya. A.
CALCULATING HEATERS FOR BIMETALLIC ELEMENTS IN THERMAL APPARATUS (Raschet Podogrevateley Termobimetallicheskikh Elementov Teplovykh Apparatov). 18 May 59 [9]p. (1 diagram 14 equations omitted). M-V. Trans. no. 2569; M 506.
Order from LC or SLA mi$1.80, ph$1.80 59-22555

Trans. of *Elektrichestvo (USSR) 1958, no. 7, p. 51-55.

Method of calculating the heaters for bimetallic elements, for the case, where a series of devices, with indirect or combined heating of the elements, is being produced on the basis of a model with direct heating of the element. (Metropolitan-Vickers abstract)

Stanislavskiy, L. Ya.
AN EXPERIMENTAL TURBO-GENERATOR WITH INTERNAL HYDROGEN COOLING OF THE STATOR AND ROTOR WINDINGS AT 3 ATM. (GAUGE) (Opytnyy Turbogenerator s Vnutrennim Vodorodnym Okhlazhdeniyem Obmotok Statora i Rotora pri Davlenii 3 Ati). 16 Mar 59 [9]p. (5 figs. 2 tables omitted) M-V. Trans. no. 2598; M 355.
Order from LC or SLA mi$1.80, ph$1.80 59-22424

Trans. of *Elektrichestvo (USSR) 1958, no. 9, p. 30-34.

Tests on the TVO-30 turbo-generator with internal hydrogen cooling of the stator and rotor windings showed that it can develop twice the capacity in comparison with standard 25 to 30 mw generators with the same dimensions. This agrees with the calculations carried out earlier. In the manufacture of the generator, a number of technological problems were solved connected with the production of turbo-generators with internal cooling of the windings, and the additional demands on the design of the machine, caused by the increase in the gas pressure to 3 atm, were investigated. The possibility and economic expediency of transportation of turbo-generators assembled were demonstrated and tested at the factory, and also the possibility of rapid installation of them at the place of erection. (Author)

Tager, A. S. and Gladun, A. D.
THE USE OF CYCLOTRON RESONANCE IN SEMICONDUCTORS FOR AMPLIFYING AND GENERATING UHF OSCILLATIONS (Ob Izpol'zovanii Tsiklotronnogo Rezonansa v Polyprovodnikakh dlya Usileniya i Generirovaniya Sverkhvysokochastotnykh Kolebaniy]. [1959] 2p. 5 refs. M557.
Order from LC or SLA mi$1.80, ph$1.80 59-22688

Trans. of *Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki (USSR) 1958, v. 35, no. 3(9), p. 808-809.

The following scheme is, for example, possible. The high-frequency electric "pumping field" E_H with the frequency $\omega_H = n\omega_{cyclotron} = neH_0/m^*c$ ($n = 1, 2, 3\ldots$) acts upon a semiconductor located in a constant magnetic field H_0. Here m^* denotes the effective mass of an electron (m_e^*) or hole (m_h^*). The aforementioned electric field acts in the plane which is vertical to H_0. If the field E_H is sufficiently strong, oscillations can be excited in the system on the frequencies $\omega_c = l\omega_H/n = l\omega_{cyclotron}$, $l = 1, 2, \ldots$ These frequencies may be higher or lower than the "pumping frequency". The excitation of such oscillations is facilitated by such a position of the semiconductor in the resonator for which ω_H and ω_c are eigenfrequencies. An important advantage offered by cyclotron-resonance when compared to paramagnetic resonance is the possibility of making use of short-wave bands of superhigh frequencies (millimeters and submillimeters). Finally, a method of amplifying or transforming the frequency of oscillations is given for the case in which the nonharmonic character of cyclotron oscillations of the carriers is only weak or nonexistent.

Tur, B. K.
THE PROBLEM OF COMMUTATION IN D.C. MACHINES (K Voprosu Kommutatsii v Mashinakh Postoyannogo Toka). 8 May 59 [8]p. (7 figs. 20 equations omitted). M-V. Trans. no. 2634; M 624.
Order from LC or SLA mi$1.80, ph$1.80 59-22625

Trans. of Elektrichestvo (USSR) 1956, no. 11, p. 30-33.

An analysis of commutation processes in d.c. machines, taking into account capacitance and resistivity of the brush contact. (Metropolitan-Vickers abstract)

Vasil'yev, G. A. and Zhabotinskiy, M. E.
MEASUREMENT OF POWER AT CENTIMETRE WAVELENGTHS BY A THERMO-ACOUSTIC METHOD (Izmereniye Moshchnosti na Santimetrovykh Volnakh Termoakusticheskim Metodom) tr. by J. W. Palmer. Jan 59 [7]p. 6 refs. Library Trans. no. 799; M 378; AD-214 324.
Order from LC or SLA mi$1.80, ph$1.80 59-22446

Trans. of Zhurnal Eksperimental'noy Teoreticheskoy Fiziki (USSR) 1953, v. 24, no. 5, p. 571-574.

For measuring power at centimetre wavelengths a thermo-acoustic detector was developed having an active element commensurate with the wavelength. The design of the detector and the measuring arrangement make it possible to measure powers down to 4μ W. Methods of increasing the sensitivity of the arrangement are indicated. (Royal aircraft Establishment abstract)

Veresotskiy, E.
AUTOMATION OF AIRPORT COMMUNICATIONS (Avtomatizatsiya Sredstv Svyazi v Aeroportakh). 21 Oct 59 [6]p. AF 1256222.
Order from LC or SLA mi$1.80, ph$1.80 59-22137

Summary trans. of Grazhdanskaya Aviatsiya (USSR) 1959 [v. 16] no. 4, p. 6-9.

A summary.

Wagner, R.
THE INFLUENCE OF FINELY DISPERSED PRECIPITATES ON THE COERCIVE FORCE OF TRANSFORMER SHEETS. [1960].
Order from BISI 2 BISITS 1549

Trans. of Acta Metallurgica (U. S.) 1959 [v. 7] July, p. 523.

Yaganov, G.
INVESTIGATION OF THE REASONS FOR FREEZING OF MOISTURE IN THE CAPILLARY TUBE AND FILTER CLOGGING IN DOMESTIC ELECTRIC REFRIGERATORS, tr. by R. E. Daisley. [1959] [12]p. Trans. no. 1026; M 353.
Order from LC or SLA mi$2.40, ph$3.30 59-22422

Trans. of Kholodil'naya Tekhnika (USSR) 1958 [v. 35] no. 1, p. 53-56.

Two causes were found for refrigeration units breaking down because of filter blocking and moisture freezing in the capillary tube. First, intense heating to high temperatures causes charring of the insulation of the windings, casing and fibre. The moisture formed during this rapidly freezes in the capillary tube. The filter remains clean. Second, the prolonged action of high temperatures (below the temperature of charring of the organic substances) leads to resin formation in the oil and gradual deposition of resin in the filter.

Mechanical Engineering

Fuks, M. Ya. and Glazyuk, I. K.
THE SAG OF TURBINE SHAFTS AND ROTORS DURING TESTS AT HIGH TEMPERATURES (Progib Turbinnykh Valov i Rotorov pri Teplovom Ispytanii). 12 Mar 59 [10]p. (5 figs. refs. omitted). M-V. Trans. no. 2589; M 354.
Order from LC or SLA mi$1.80, ph$1.80 59-22423

Trans. of Vestnik Mashinostroyeniya (USSR) 1955, v. 35, no. 6, p. 30-34.

The present article briefly lists the basic results of work on experimental heat tests with data prepared from a large number of forgings over several years. From these results and the data of other works it can be concluded that the bending of a shaft during a heat test may take place independently under the effect of three different factors: (1) nonsymmetry in the distribution of the physical properties over the cross-section of the forging (e. g., thermal coefficient of expansion) with a symmetrical temperature field; (2)) irreversible processes taking place in the material of the forging (e. g. permanent set through the relief of residual stresses) nonsymmetrically relative to the axis; and (3) axial nonsymmetry in the distribution of temperature through the cross section with axial symmetry in the distribution of the physical properties. (Author)

Pan'kovskiy, V. I.
OPTIMUM CONDITIONS FOR THE OPERATION OF GAS GENERATORS AT THE MOSCOW AREA PODZEMGAZ PLANT. [1959] [7]p.
Order from LC or SLA mi$1.80, ph$1.80 59-22340

Trans. of Podzemnaya Gazifikatsiya Ugley (USSR) 1957, no. 2, p. 48-50.

See also 59-22338

Radtsig, V. A.
SOME PROBLEMS IN THE PLANNING, DESIGN AND CONSTRUCTION OF THERMAL POWER STATIONS (Nekotoryye Voprosy Planirovaniya, Proyektirovaniya i Stroitel'stva Teplovykh Elektrostantsii). 28 May 59 [6]p. M-V. Trans. no. 2542; M 501.
Order from LC or SLA mi$1.80, ph$1.80 59-22550

Trans. of [Elektricheskiye Stantsii] (USSR) 1958, v. 29, no. 5, p. 43-45.

Discussions are presented on the maximum output of thermal power stations; the economics of long-distance transmission from regional thermal power stations; the location and operation of atomic power stations; power stations using natural gas; problems of technical water supply; and problems of the construction of large regional thermal power stations.

Rossiyevskiy, G. I.
ECONOMIC EFFICIENCY OF DISTRICT HEATING WITH LARGE POWER SYSTEMS (Ekonomicheskaya Effektivnost' Teplofikatsii v Uslovyakh Moshchnikh Energosistem). 2 June 59 [13]p. (5 figs. 7 equations omitted). M-V Trans. no. 2543; M 503.
Order from LC or SLA mi$2.40, ph$3.30 59-22552

Trans. of [Elektricheskiye Stantsii] (USSR) 1958, v. 29, no. 6, p. 20-26.

Topics discussed include (1) the general system of determining the economic efficiency of district heating; (2) efficiency of district heating in regions of cheap fuel; and (3) effectiveness of constructing low-output heat and electric power plants with back-pressure turbines.

Sheremet'yevskiy, P. P.
ON THE COST OF ELECTRICAL AND THERMAL POWER AT A HEAT AND ELECTRIC POWER PLANT (O Sebestoimosti Elektricheskoy i Teplovoy Energii na TETs). 2 June 59 [6]p. 1 ref. M-V. Trans. no. 2544; M 502.
Order from LC or SLA mi$1.80, ph$1.80 59-22551

Trans. of [Elektricheskiye Stantsii] (USSR) 1958, v. 29, no. 6, p. 42-43.

A method is presented for determining the net cost of electrical and thermal power at a station where both are produced simultaneously.

Ordnance, Missiles, and Satellite Vehicles

THE SOVIET COSMIC ROCKET. [1959] [18]p. M 380.
Order from LC or SLA mi$2.40, ph$3.30 59-22448

Trans. from Pravda [Moscow] (USSR) 1959, 12 Jan, p. 1, 3-4.
Another translation is available from LC or SLA mi$2.70, ph$4.80 as 59-16407, AF-1 255 477, 26 Jan, p. 1, 3-4.

Barabanov, A. T. and Rayzberg, B. A.
DESCENT OF A SATELLITE ON AN ILLIPTICAL ORBIT [Snizheniye Sputnika na Ellipticheskoy Orbite]. 1959, 5p. 2 refs.
Order from AIS $7.50 AIS 584-1

Trans. of Izvestiya Vysshykh Uchebnykh Zavedeniy. Aviatsionnaya Tekhnika (USSR) 1958, no. 4 [p. 3-8].

Gindin, Ye. Z., Leykin, G. A. and others.
OPTICAL OBSERVATIONS ON ARTIFICIAL EARTH SATELLITES. [1959] [27]p. M 555.
Order from LC or SLA mi$2.70, ph$4.80 59-22690

Trans. of [Predvaritel'nyye Itogi Nauchnykh Issledovaniy s Pomshch'yu Pervykh Sovetskikh Iskusstvennykh Sputnikov Zemli i Raket, Sbornik Statey (USSR) 1958, no. 1, pt. 1] p. 5-39.
Another translation is available from LC or SLA mi$3.30, ph$7.80 as 59-12098, JPRS(NY)-723, 8 Oct 58, 41p.

Gorelik, Ya.
INTERCONTINENTAL BALLISTIC MISSILE [Mezhkontinental'naya Ballisticheskaya Raketa] [1959] 1p.
Order from MDF $1.00 MDF G-146

Trans. of Nauka i Zhizn' (USSR) 1957, v. 24, no. 10, p. 63.

Descriptions are presented of the Russian multistage rocket based on the system of K. E. Tsiolkovskiy, and of the U. S. Atlas rocket.

Kel'son, A. S.
SELF-AIMING AS A PROBLEM OF ENGINEERING CYBERNETICS [Samonavedeniye kak Zadacha Tekhnicheskoy Kibernetiki] [1959] 6p.
Order from MDF $3.00 MDF K-169

Trans. of A[kademiya] N[auk] SSSR. Doklady, 1957, v. 116, no. 6, p. 933-936.
Another translation is available from OTS $0.50 as 59-11995, F-TS-9454/V [1958] [10]p.

Kurbangalina, R. Kh.
CONCERNING THE DETONATABILITY OF LIQUID EXPLOSIVE NITRIC ACID BASE MIXTURES (O Detonatsionnov Sposobnosti Zhidkikh Vzryychatykh Smesey na Osnove Azotnoy Kisloty). 13 Oct 59 [5]p. AF 1256193.
Order from LC or SLA mi$1.80, ph$1.80 59-22140

Summary trans. of *Zhurnal Prikladnoy Khimii (USSR) 1959 [v. 32] no. 7, p. 1467-1470.

Sanitation and Safety Engineering

THE FUNCTION OF STORAGE TANKS IN THE SANITARY PROTECTION OF RESERVOIRS FROM POLLUTION BY INDUSTRIAL EFFLUENTS. [1959] 7p. M 363.
Order from LC or SLA mi$1.80, ph$1.80 59-22432

Trans. of unidentified Russian mono.

GERMAN REPORTS ON EAST BLOC ACTIVITIES: CENTRAL PLANNING FOR ATOMIC PROTECTION IN THE EAST BLOC [AND] IDEOLOGICAL TRAINING IN THE EAST GERMAN PEOPLES ARMY, tr. by E. W. Schnitzer. 9 June 59 [13]p. T-114.
Order from LC or SLA mi$2.40, ph$3.30 59-18267

Trans. from Wehrkunde (West Germany) 1959, May and 1958, Nov.

Bakaric, Vladimir.
ATOMIC, BIOLOGICAL, AND CHEMICAL DEFENSE IN AVIATION. 25 Feb 59, 11p. JPRS: L-649-N.
Order from OTS $0.50 59-13229

Trans. of Vazduhoplovni Glasnik (Yugoslavia) 1957, no. 6, p. 625-631.

Fal'kovskaya, L. N.
DISINFECTION OF WATER BY ULTRA-SONIC VIBRATIONS. [1959] 6p. 2 refs. M 364.
Order from LC or SLA mi$1.80, ph$1.80 59-22433

Trans. of unidentified Russian mono.

Zhukov, A. I. and Mongait, I. L.
PURIFICATION OF INDUSTRIAL EFFLUENTS IS THE PRINCIPLE MEASURE FOR THE PROTECTION OF RESERVOIRS FROM POLLUTION. [1959] 7p. M 362.
Order from LC or SLA mi$1.80, ph$1.80 59-22431

Trans. of unidentified Russian mono.

Ship Building

Büller, K.
THE PRELIMINARY DESIGN OF HYDROFOIL BOATS (Der Vorentwurf von Tragflügelbooten) tr. by E. N. Labouvie. Apr 58 [18]p. Trans. 273.
Order from LC or SLA mi$2.40, ph$3.30 59-14883

Trans. from Schiffstechnik (West Germany) 1956/1957, v. 4.

Although the analysis is mainly concerned with the design of hydrofoil boats with two foils which pierce the water surface with their tips, it may be logically applied to other hydrofoil systems.

Bussler, M.
THE CALCULATION OF THE FRICTIONAL COEFFICIENT AND SCALE EFFECT DUE TO FRICTION FOR SMOOTH AND ROUGH PROPELLERS (Die Berechnung des Reibungsbeiwertes und des Reibungsmaszstabseinflusses, von Glatten und Rauhen Propellern) tr. by E. N. Labouvie. Apr 59 [29]p. 16 refs. Trans. 287.
Order from LC or SLA mi$2.70, ph$4.80 59-14953

Trans. of Schiffstechnik (West Germany) 1956, v. 3, no. 17, p. 254-261.

This report reviews methods to determine effects of frictional coefficients and scale effect on model propellers, and confirms that the efficiency of the model propeller investigated in the supercritical range is equal to that of the smooth full-scale propeller. (David Taylor Model Basin abstract)

Korotkin, Ya. I. and Maksimadzhi, A. I.
FORMULAE FOR THE CALCULATION OF THE LOCAL STRENGTH OF CYLINDRICALLY CORRUGATED BULKHEADS (Formuly dlya Proverki Mestnoy Prochnosti Volnistykh Gofrirovannych Pereborek). Oct 59 [11]p. RTS-1096.
Order from LC or SLA mi$2.40, ph$3.30 59-22588

Trans. of Sudostroyeniye (USSR) 1958, v. 24, no. 4, p. 9-12.

Shaybo, M.
HYDROFOIL BOATS (Sudna z Pidvodnymy Krylamy) tr. by B. V. Nakonechny. Oct 59 [6]p. Bureau of Ships Trans. 695.
Order from OTS $0.50 60-21035

Trans. from [Chornomors'ka Komuna] (USSR) 1958, v. 38, no. 159.

General information is presented on the new hydrofoil boat, The Raketa, which was designed and constructed at the Gorki "Krasnoe Sormovo" Shipyard. Speed of the boat is 70 km/hr (37.8 kn). It is announced that more hydrofoil vessels are being built for passenger use on inland waterways.

FOOD, HANDLING, AND PACKAGING EQUIPMENT

Food

Brunelet, [L.] and Vidal, Pierre.
SOME ASPECTS OF THE PROBLEM OF PACKAGING FOOD PRODUCTS WHICH HAVE BEEN STERILIZED BY IONIZING RADIATION (Quelques Aspects du Problème de l'Emballage des Denrées Alimentaires Stérilisées par les Radiations Ionisantes). June 59, 9p.
Order from OTS $0.50 AEC-tr-3691

Trans. from Revue Générale du Froid (France) 1958, July.

Discussions are presented on the action of ionizing radiation on organic substances, and the characterization of packaging (including metal containers, glass containers, and plastic films) intended for the protection of irradiated food.

Demeter, Karl J.
SUITABILITY OF MILK TREATED WITH HYDROGEN PEROXIDE FOR CHEESE MANUFACTURE. [1959] 4p. 2 refs.
Order from SLA mi$1.80, ph$1.80 60-10809

Trans. of Deutsche Lebensmittel Rundschau (West Germany) 1953, v. 49, no. 2, p. 33-34.

Gisske, Wilhelm.
IMPORTANCE OF CARBOHYDRATES IN THE PREPARATION OF SATISFACTORY DRY SAUSAGE WITH STABLE COLOR, tr. by P. M. M. 29 July 54, 6p. 3 refs.
Order from SLA mi$1.80, ph$1.80 60-10801

Trans. of Fleischwirtschaft (Germany) 1950, v. 2 [no. 12] p. 273-274.

Hokl, J. and Moravec, J.
THE WEIGHT CHANGES OF MEAT ON PICKLING AND THE QUESTION OF WATER LOSS FROM HEAT DURING THE PICKLING PROCESS. [1959] 5p. 17 refs.
Order from SLA mi$1.80, ph$1.80 60-10886

Trans. of Z[eit]sch[rift] f[ür] Fleisch- u[nd] Milchhyg[iene] (Germany) 1941, v. 51, p. 267-269.

Lerche, M. and Fritz, Joh.
SEPARATION OF DISODIUM PHOSPHATE FROM RAW SAUSAGE. [1959] 3p. (5 figs. omitted).
Order from SLA mi$1.80, ph$1.80 60-10887

Trans. of Zeitschrift für Fleisch- und Milchhygiene (Germany) 1942, v. 52, p. 237-239.

Lerche, M. and Fritz, J.
SEPARATION OF DISODIUM PHOSPHATE FROM RAW SAUSAGE (CONTINUATION). [1959] 9p. (1 fig. omitted).
Order from SLA mi$1.80, ph$1.80 60-10888

Trans. of Zeitschrift für Fleisch- und Milchhygiene (Germany) 1942, v. 52, p. 247-249 and 260-263.

Maass, Heinrich
WHICH IS BETTER TO RETAIN MEAT COLOR, NICOTINIC ACID AND- (OR) ASCORBIC ACID? tr. by P. M. M. 14 Feb 56, 4p. 2 refs.
Order from SLA mi$1.80, ph$1.80 60-10808

Trans. of Deutsche Lebensmittel Rundschau (West Germany) 1955, v. 51, p. 23-25.

Nazarov, V. I., Sakharov, V. G., and Tikhomirova, T. I.
SOME DATA ON THE STRENGTH OF STARCH GEL AND ON THE STALING OF BREAD (Nekotoryye Dannyye po Izucheniyu Prochnosti Studney Krakhmala i Cherstveniya Khleba). Oct 59 [6]p. 9 refs. RTS no. 1196.
Order from LC or SLA mi$1.80, ph$1.80 59-22408

Trans. of Izvestiya Vysshikh Uchebnykh Zavedeniy. Pishchevaya Tekhnologiya (USSR) 1958, no. 4, p. 131-135.

Piskarev, A., Krylov, G., and Luk'yanitsa, L.
CHARACTERISTICS OF THE HISTOLOGICAL CHANGES IN FISH ON FREEZING (Kharakteristika Gistologicheskikh Izmeneniy Ryby pri Zamorazhivanii) tr. by M. Slade. [1959] [13]p. (foreign text included) 5 refs. Trans. no. 4256.
Order from LC or SLA mi$2.40, ph$3.30 59-19598

Trans. of Kholodil'naya Tekhnika (USSR) 1958, v. 35, no. 4, p. 48-52.

Other conditions being equal, the size of the ice crystals in frozen fish increases with increasing length of storage time prior to the freezing operation.

Susyoshi, Yuji.
HIGHLY UNSATURATED FATTY ACIDS IN NUTRITION, tr. by Genji Sakaguchi. Aug 57, 24p. 31 refs.
Order from SLA mi$2.70, ph$4.80 60-10804

Trans. of Eiyo to Shokuryo (Japan) 1953, v. 6, no. 3, p. 89-96.

Zhugastr, K.
CONTINUOUS PRODUCTION OF RIPENED CREAM BUTTER USING CHEMICALS FOR THE ACIDIFICATION. [1959] 4p. M. 80.
Order from LC or SLA mi$1.80, ph$1.80 59-18725

Trans. of Mol[ochnaya] Prom[yshlennost'] (USSR) 1958 [v. 19] no. 2, p. 16-18.

MACHINERY, FABRICATION, AND ACCESSORY EQUIPMENT

SELECTED TRANSLATIONS ON SOVIET MACHINE BUILDING NO. 3. 21 Sep 59, 42p. JPRS: 1882-N.
Order from OTS $1.25 59-13865

Contents:
Present and future production of enameled equipment, by I. S. Yermakov, Z. I. Sinkovich, and A. Ya. Matyash. Trans. of Khimicheskoye Makhinostroyeniye (USSR) 1959 [v. 1] no. 2, p. 4-6.
Unit for drying and impregnating capacitors, by V. Ya. Maslovskiy. Trans. of Byulleten' Tekhniko-Ekonomicheskoy Informatsii (USSR) 1959, no. 3, p. 40-42.
The BAP-290 self-propelled drilling rig with sinking drill heads, by A. G. Nikitin. Trans. of Gornyy Zhurnal (USSR) 1959, no. 5, p. 16 and 18.
New conveyer for open-pit mining, by V. A. Agushev and I. R. Gladyshev. Trans. of Gornyy Zhurnal (USSR) 1959, no. 5, p. 22.
New construction machinery for 1959-65, by V. K. Rostotskiy. Trans. of Mekhanizatsiya Stroitel'stva (USSR) 1959 [v. 16] no. 1, p. 5-12.
Mechanization of installation and special work for 1959-65. Trans. of Mekhanizatsiya Stroitel'stva (USSR) 1959 [v. 16] no. 1, p. 12-18.
The development of overall mechanization and automation in construction for 1959-65, by V. A. Bauman.

Trans. of Mekhanizatsiya Stroitel'stva (USSR) 1959 [v. 16] no. 1, p. 18-24.

Machines for overall mechanization in road building, by A. A. Vasil'yev. Trans. of Avtomobil'nyye Dorogi (USSR) 1959 [v. 22] no. 3, p. 10-12.

Machines for overall mechanization in road building, by A. A. Vasil'yev. Trans. of Avtomobil'nyye Dorogi (USSR) 1959 [v. 22] no. 4, p. 17-19.

UZK-57 ultrasonic flaw detector, by N. V. Khanapetov and M. A. Borisov. Trans. of Byulleten' Tekhniko-Ekonomicheskoy Informatsii (USSR) 1959, no. 3, p. 37-38.

USSR INDUSTRIAL EQUIPMENT (TRANSPORTATION, CONSTRUCTION, PRODUCTION, AND POWER MACHINERY) [NO. 17, 31 DEC 59]. [1959] [40]p. 94 refs.
Order from LC or SLA mi$3.00, ph$6.30 60-13268

Trans. of unevaluated information selected from Russian-language publications

See also 59-22265, 60-13055

Berthon and Coeuillet.
CARBIDE BITS IN ROCK DRILLING. [1959] [31]p.
Order from SLA mi$3.00, ph$6.30 60-10807

Trans. of Revue [de] l'Industrie Minerale (France) 1948, no. 530, p. 173-194.

An attempt is made to compare the various bits from French suppliers and to draw conclusions as to their form and use.

Klimakhin, A. A.
FORMING CUTTERS FOR MACHINING TURBINE BLADES OF RESISTANT STEEL (Fasonnyye Frezy dlya Obrabotki Turbinnykh Lopatok iz Zharoprochnykh Staley). May 59 [6]p. TIL/T. 4835; M 524.
Order from LC or SLA mi$1.80, ph$1.80 59-22571

Trans. of Stanki i Instrum[ent] (USSR) 1956, v. 27, no. 12, p. 23-25.
Another translation is available from LC or SLA mi$2.40, ph$3.30 as 59-14113 [1959] 14p.

A design of a cutter having a positive front angle is presented, which was adopted in connection with the bad workability of steel of the Austenite class when designing forming cutters for blade machining. To determine the optimum angles, tests were made in the TsNIITMASh on the machining of heat resistant alloys of different types, on the basis of which the following geometric parameters of the cutters were recommended: (1) a front angle of 10 to 12°; (2) a rear angle of 12 to 16°. The smaller front angles should be used when working with large cutting depth and feed, and also with a non-rigid system of lathe-mandrel-cutter-workpiece.

Engines and Propulsion Systems

AN EXPERIMENT ON OBTAINING REACTIVE THRUST IN A LABORATORY MODEL OF AN IONIC PROPULSION SYSTEM (Opyt Polucheniya Reaktivnoy Tyagi v Laboratornoy Modeli Ionnogo Dvizhitelya). 9 Oct 59 [5]p. (2 figs. omitted) 5 refs. AF 1256174.
Order from LC or SLA mi$1.80, ph$1.80 59-22146

Trans. of *Zhurnal Tekhnicheskoy Fiziki (USSR) 1959, v. 29, no. 8, p. 962-966.

METHOD OF MANUFACTURING A REGENERATOR WITH A FILLER, AND REGENERATOR THUS MADE, tr. by F. H. B. 28 Oct 59, 5p. (3 figs. omitted).
Order from LC or SLA mi$1.80, ph$1.80 59-22272

Trans. of Danish patent 80, 505, cl. 46d-3, protection period from 25 Feb 53, granted 23 Jan 56, pub. 6 Feb 56 (add. to Danish patent 79, 265, protection period from 29 Apr 52) (Priority: Netherlands, 28 Feb 52) by N. V. Philips' Gloeilampenfabrieken, Eindhoven, Holland (patents expire together).

The method is characterized in that the filler is placed in the regenerator casing while at least one of the walls of the casing is being made. In an embodiment of the invention the walls of the regenerator casing consist of elements which are joined together and a part of the filler of the regenerator is embedded or clamped in between the partition walls of the elements. Where there is a filler consisting of a number of layers which are placed transversally to the main passages for the medium flowing through the regenerator, these layers have a thickness which is not greater than 200 μ, each of these layers being embedded between rings which are joined together. The layers may consist of wire cloth. The rings may consist of metal and be joined together by means of synthetic resin. When, however, the rings consist of thermoplastic material, it is possible to join the rings together by heating.

Grosshans, G., Marcadet, J. and others.
A SOLUTION BY THE FRENCH TO THE MULTI-FUEL ENGINE PROBLEM. [1959] [45]p. 43 refs.
Order from SLA mi$3.30, ph$7.80 60-10746

Trans. of World Petroleum Congress (no. 5) New York, 1959 [sect. VI, paper 1].

This invention can be applied in several fields: (1) economical use of light fractions of the fuels; (2) use of a wide range of fuels during a shortage of the normal fuel supply; (3) reduction of noise, vibrations, and smoke in the conventional Diesel engines, and (4) increase of the speed and the power of the compression ignition engines. (Author)

Kastelin, O. N., Mit'kina, Ye. A. and others.
SOVIET ROCKET ENGINEERING: SELECTED TRANSLATIONS. 2 Dec 59, 78p. (1 fig. omitted) 54 refs. JPRS: L-1117-N.
Order from OTS $2.25 59-13981

Trans. of Akademiya Nauk SSSR. Otdeleniye Tekhnicheskikh Nauk. Izvestiya: Energetika i Avtomatika, 1959, no. 1, p. 20-38, p. 139-145; no. 2, p. 65-[70] [99-103] 139-141 and no. 4, p. 230-237.

Molchanov, K. K.
ON THE PROBLEM OF GAS MOTION AND COMBUSTION IN A LIGHT FUEL ENGINE, tr. by R. E. Daisley. [1959] [34]p. 15 refs. Trans. no. 1019; M 347.
Order from LC or SLA mi$3.00, ph$6.30 59-22417

Trans. of Avtomobil'no-Dorozhnyy Institut. Trudy (USSR) 1955, v. 17, p. 85-100.

Shturman, G. I.
INDUCTION MACHINES WITH OPEN MAGNETIC CIRCUITS, tr. by P. Collins. Jan 59 [21]p. 6 refs. AERE-Trans 818; M 500.
Order from LC or SLA mi$2.70, ph$4.80 59-22549

Trans. of Elektrichestvo (USSR) 1946, no. 10, p. 43-50.

Basic propositions on the theory of induction machines with open magnetic circuits are formulated, which give quantitative evaluation of the electromechanical properties and technical and economic criteria of asynchronous motors with arc and plane stators. The problem of the excitation conditions of the fields when the magnetic circuit is "opened up" is examined. The results of experiments confirming the laws discovered are given. (AERE abstract)

Yeremyeyev, A. S.
THE STATOR WINDINGS OF LARGE HYDRAULIC GENERATORS WITH PARALLEL BRANCHES (Obmotki Statorov Moshchnykh Gidrogeneratorov s Parallelnymi Vetvyami). 14 Feb 55 [12]p. M-V Trans. no. 2049; M534.
Order from LC or SLA mi$2.40, ph$3.30 59-22709

Trans. of Elektrichestvo (USSR) 1954, no. 10, p. 3-7.

The advantages and disadvantages of different types of stator windings for large hydraulic generators are examined. The author recommends the use of bar windings and suggests the possibility of having the parallel branches centralized. (Metropolitan-Vickers abstract)

Machine Parts and Mechanisms

Fedyakin, R. V. and Chesnokov, V. A.
DESIGN OF TOOTHED GEARS OF M. L. NOVIKOV. [1959] [12]p. 5 refs. M 394.
Order from LC or SLA mi$2.40, ph$3.30 59-22462

Trans. of Vestnik Mashinostroyeniya (USSR) 1958 [v. 38] no. 5, p. 11-19.

Fedyakin, R. V. and Chesnokov, V. A.
THE "NOVIKOV" GEAR TOOTH SYSTEM. [1959] [10]p. 2 refs. M 393.
Order from LC or SLA mi$1.80, ph$1.80 59-22461

Trans. of Vestnik Mashinostroyeniya (USSR) 1958 [v. 38] no. 4, p. 3-11.

Schilhansl, M.
STRESS PROBLEMS IN THE BUTTERFLY VALVE HOUSING. [1959] [45]p. (26 figs. omitted) 6 refs.
Order from SLA mi$3.30, ph$7.80 60-10046

Trans. of Wasserkraft und Wasserwirtschaft (Germany) 1944, v. 39, no. 1, p. 5-17.

Manufacturing Equipment and Processes

ALLOWANCES [AND] THE EVALUATION. [1959] 10p. (11 figs. omitted) 3 refs.
Order from SLA mi$1.80, ph$1.80 60-10783

Trans. of mono. R. E. F. A. Buch, no. 2 [Darmstadt?] n. d. p. 34-36 and p. 64-76.

INSTRUMENT CONSTRUCTION: SELECTED ARTICLES, tr. by Porter M. Campbell. [1959] [74]p. 44 refs. H-3330 A thru H & J.
Order from OTS $2.00 59-21183

Trans. of Priborostroyeniye (USSR) 1958, no. 3, p. 1-19, 22-25, 27-31.

Contents:
Dynamic characteristics of the electro-mechanical regulator system of the Central Institute for Boiler Turbines
Construction of the operational amplifier on (sic) semiconductor elements, by G. M. Petrov and V. A. Popov
Determination of the transmissive functions by temporary characteristics of the linear system
The influence of temperature instability of the modulator on the germanium triode in the work of the direct current operating amplifier
Nonelectrode conductometric recorder, by V. N. Skugorov
Manganic cupronickel, a highly stable copper alloy, by A. V. Bobylev
The small dimension semiautomatic cold press, by M. M. Dvorkena
Automatic breaker of the impulse line, by V. M. Lezin

Improved lever augmentation mechanism for mechanical devices
Installation of a measuring device with phase impulse modulation
The utilization of television methods in device construction, by L. Grushkobeck

USSR ELECTRONIC AND PRECISION EQUIPMENT [NO. 18, 3 FEB 60]. [1960] [21]p. 58 refs.
Order from LC or SLA mi$2.70, ph$4.80 60-13690

Trans. of unevaluated information selected from Russian-language publications.

USSR MATERIALS AND MATERIALS PROCESSING EQUIPMENT [NO. 18, 9 FEB 60]. [1960] [39]p. 106 refs.
Order from LC or SLA mi$3.00, ph$6.30 60-15102

Trans. of unevaluated information selected from Russian-language publications.

WELDING BEHAVIOUR OF METALS. [1959] 10p.
A. C. S. I. L. Trans. no. 1076.
Order from SLA mi$1.80, ph$1.80 60-10789

Trans. of Soudage et Techniques Connexes (France) 1958, v. 10, Jan-Feb. p. 7-10.

Recommendations are presented to define the minimum conditions to be met by rolled or forged plain carbon steels or steels alloyed to a small extent with manganese, to make them suitable for use with electric arc welding.

Kauhausen, E. and Sadowski, S.
THE EFFECT OF MOISTURE ABSORPTION AND ITS DELAY AT NON- ALLOYED, LIME- BASIC ELECTRODES. [1959] 19p. (13 figs. omitted) 10 refs.
Order from SLA mi$2.40, ph$3.30 60-10820

Trans. of Schweissen und Schneiden (West Germany) 1959, v. 11, no. 4, p. 115-120.

Experimental results show that the moisture absorption of lime-basic electrodes, where the coating is highly rendered hydrophobic, is greatly delayed in comparison to ordinary electrodes (i. e., the Kb-electrodes). The water absorption by the coating was rendered more difficult, but the release of the moisture at the temperature increase was accelerated. Welding rods with an overwhelmingly hydrophobic coating show greater stability during storage and bring about a greater safety of the welding operation. The amount of water absorbed remains for a longer period of time restricted to values below 1% and causes no pore formation in the welding seams. If the welding rods are stored correctly, and if they are moved in correct rotation from the storage place to the plant, the water assay in the coatings will not reach the critical value. If the welding rods have been stored over rather prolonged periods of time, or if the humidity in the air is elevated, after-drying certainly is to be recommended. The property of delayed moisture absorption is not lost at repeated drying. (Author)

Lossiyevskiy, V. L.
DETERMINATION OF THE RATIONAL SEQUENCE AND AMOUNT OF AUTOMATION IN PRODUCTION PROCESSES (K Voprosu Opredeleniya Ratsional'noy Ocherednosti i Ob"yema Avtomatizatsii Proizvodstvennykh Protsessov). [1959] [23]p. (4 figs. omitted) 4 refs. M 607.
Order from LC or SLA mi$2.70, ph$4.80 59-22641

Trans. of Avtomatizatsiya Proizvodstvennykh Protsessov (USSR) 1958, no. 2, p. 83-93.

Shakhnovskiy, L. N.
HYDROLYZED NICOTINE AS AN INDEX FOR SENSORY STRENGTH OF MAKHORKA. [1959] 5p. 1 ref.
Order from LC or SLA mi$1.80, ph$1.80 60-10813

Trans. of Tabak (USSR) 1959, v. 20, no. 1, p. 14-17.

An investigation of the taste qualities of the smoke of Makhorka tobacco showed that the intensity of the taste is directly proportional to the amount of hydrolyzed nicotine in the smoke. The suggested mechanism of the sensation is as follows. Part of the smoke, passing through the throat of the smoker, remains on the surface. The nicotine and other alkaloid salts become hydrolyzed on the moist surface. The free bases formed act on the nerves causing the sensation. (See also 60-10812)

Shakhnovskiy, L. N.
OBJECTIVE FACTOR IN SENSORY STRENGTH OF TOBACCO PRODUCTS. [1959] 2p.
Order from LC or SLA mi$1.80, ph$1.80 60-10812

Trans. of Tabak (USSR) 1959, v. 20, no. 3, p. 28-29.

A direct correlation was found between the organoleptically determined taste qualities of the smoke of yellow (Turkish) type tobacco products and chemical determinations of the quantity of hydrolyzed nicotine in the smoke. (See also 60-10813)

Teterin, P. K., Danilov, F. A., and Manegin, Yu. V.
STUDY OF THE PROCESS OF OBLIQUE ROLLING IN A THREE ROLL-HIGH MILL. [1959] [22]p. (9 figs. omitted).
Order from LC or SLA mi$2.70, ph$4.80 60-10758

Trans. of mono. Issledovaniye Protsessa Kosoy Prokatki v Trekhvalkovom Stane, n. d.

The coefficient of axial slipping in rolling tubes of different assortment and at different parameters of operation, varied from 0.64 to 1.18, although at a very slight clamp zone reduction it could be as low

as 0.36. Axial slip largely depended on the angle of incline of the clamp zone generatrix, rising with the reduction of angle φ. Axial slip decreases with the increase of the clamp zone reduction and the increase of the angle of feed of the rolls; it rises somewhat with the increase of depth of roll collars, and is practically independent of the peripheral speed of the rolls. The coefficient of tangential slip is less than unity; tangential slip varies in the same way as axial, depending on the angle of feed and depth of the roll collar, i.e., it decreases with the increase of the angle of feed, but rises with the increase of the depth of the roll collar. The pressure on the rolls in rolling tubes was between 8.7 and 34.4 T. It rises with the height of roll collars and the angle of feed, as well as with the increase in strength of the rolled material. The pressure on the rolls is practically independent of the peripheral speed. Power consumption and motor load largely depend on the angle of feed of the rolls, the power of consumption falling, while motor load rising, with the increase of the angle of feed. With the rise of peripheral speed of the rolls the power consumption increases only very slightly. The motor load varies nearly proportionately to the peripheral speed of the rolls.

Transport, Traction and Hoist Facilities

AT THE KURGAN BUS PLANT (Na Kurganskom Avtobusnom Zavode), tr. by Stephen Evanusa. [1959] 2p. (photo omitted). H-3522 E.
Order from OTS $0.50 59-21214

Trans. of photo caption from Avtomobil'nyy Transpoet (USSR) 1958 [v. 36] no. 12, p. 45.

The Kurgan Bus Plant, which is one of the youngest motor vehicle enterprises of our country, is successfully fulfilling its socialist obligations in honor of the Twenty-First Congress of the Soviet Union Communist Party. The production tasks of the last few months have been completed on time. The productive power of the plant is growing. The output of buses has tripled here in 1959. Technological processes and production organization are being improved at this enterprise. Operational assembly of buses has been introduced into five sections of the body assembly shop. Photo: Operational assembly section in the Kurgan Bus Plant. (The translation is presented here in its entirety.)

AUTOMOBILE ZIL-157, tr. by Thomas M. Spell. [1959] 12p. (11 figs. omitted). H-3331.
Order from LC or SLA mi$2.40, ph$3.30 59-19317

Trans. of Russian mono. Avtomobil' Zil-157, 1958, p. 125, 135-139 and 147-154.

TECHNOLOGY OF THE SOVIET UNION (Aus der Technik de Sowjetunion) tr. by H. H. [1959] 3p. (5 figs omitted). H-3256.
Order from LC or SLA mi$1.80, ph$1.80 59-16154

Trans. of die Technik (Germany) 1959, Jan, p. 53-54.

Technical data are tabulated for the ZIL-111, the Chayka M-13, and the Moskvich 410 and 430 automobiles.

Armand, G. and Pral', G.
CENTRAL TIRE PRESSURE CONTROL SYSTEM OF THE ZIL-157 TRUCK (Tsentral'izovannaya Sistema Regulirovaniya Davleniya Vozdukha v Shinakh Avtomobilya ZIL-157) tr. by Stephen Evanusa. [1959] 6p. (6 figs. omitted). H-3522 B.
Order from OTS $0.50 59-21211

Trans. of Avtomobil'nyy Transport (USSR) 1958 [v. 36] no. 12, p. 29-32.

The new three-axle ZIL-157 truck is provided with a central tire pressure control system, which enables the driver to vary the tire pressure while the truck is in motion. This system facilitates travel over difficult portions of roads, by lowering the pressure in the tires. In addition, in the event a tire is punctured, it is possible to reach a motor vehicle base without changing the tire, and the tire pressure can be observed constantly. The tire pressure control system consists of the central valve, pressure drop limiter valve, tire valve block, tire inflating devices, and inflating lines. (Extracted from the report)

Chernilovskiy, Ye.
SEMITRAILER MMZ-584 V FOR TRANSPORTING LONG AND BULKY LOADS (Polupritsep MMZ-584 v dlya perevozki Dlinnomernykh i Krupnogabaritnykh Gruzov) tr. by Stephen Evanusa. [1959] 3p. (1 photo omitted). H-3522 D.
Order from OTS $0.50 59-21213

Trans. of Avtomobil'nyy Transport (USSR) 1958 [v. 36] no. 12, p. 35.

The Mytishchi Motor Vehicle Plant has built an experimental model of a specialized semitrailer designed for transporting long and bulky loads (timber, boards, rolled metal, reinforced concrete slabs, heavy equipment in boxes, etc) on improved roads. The semitrailer is used with the series-produced ZIL-164 N truck tractor. The semitrailer body consists of an open platform with front panel. There are no panels at the rear or sides. There are seven rectangular holes 80X80 mm in size in each side of the platform for holding wooden or metal removable stakes, which are used to fasten the load. The spacing between the holes is not uniform, varying from 600 to 925 mm. When boxed or wrapped goods are being transported, the stake holes may be used to fasten the load with wire or rope. Plant tests have established that transportation of large reinforced concrete slabs and rolled metal does not require fastening the load to the semitrailer, and loading and unloading operations are facilitated. It has also been established that the introduction of permanent folding

metal stakes is advantageous. The experimental semitrailer is presently undergoing operational tests at a motor transportation organization. (Extracted from the report)

Dibov, O. V.
CONSTRUCTION, RESEARCH, TRIAL (Konstruirovaniya, Issledovaniya, Ispitaniya) tr. by Vawryk. [1959] [8]p. H-4015.
Order from LC or SLA mi$1.80, ph$1.80 59-22267

Trans. of Avtomobil'naya Promyshlennost' (USSR) 1959, no. 3, p. 1-4.

Prospective types of vehicles and their motors are tabulated.

Gubenko, E. N.
A SIMPLIFIED METHOD FOR CALCULATING THE TEMPERATURE RISE IN ELECTRIC LOCOMOTIVE TRACTION MOTORS (Uproshchennyy Metod Rascheta Nagrevaniya Tyagovykh Dvigateley Elektrovozov). 19 Mar 59 [4]p. (2 figs. 5 equations omitted) 1 ref. M-V. Trans. no. 2523; M 356.
Order from LC or SLA mi$1.80, ph$1.80 59-22425

Trans. of Elekt[richeskaya i] Teplovoz[naya] Tyaga (USSR) 1958, no. 3, p. 35-36.

The method described is accurate to within 1° or 2°C and uses only the speed-variation curve.

Korobov, V. M.
CALCULATIONS IN THE DESIGN OF JIBS SUSPENDED ON FLEXIBLE CORDS (K Raschetu na Ustoychibost Strel, Podvezhennykh na Gibkoy Niti) tr. by K. G. H. Fryer. May 59 [8]p. Library Communication no. 888.
Order from LC or SLA mi$1.80, ph$1.80 59-19282

Trans. of Mekhanizatsiya Stroitel'stva (USSR) 1952, v. 9, no. 2, p. 6-9.

Makarevich, V. S. and Pavlovich, E. S.
SOME CONCLUSIONS FROM THE PRACTICAL OPERATION OF THE DPE-400 TRACTION MOTORS (Nekotoryye Vyvody iz Praktika Eksploatatsii Tyagovykh Dvigateley DPE-400). 17 Mar 59 [4]p. M-V. Trans. no. 2522; M 357.
Order from LC or SLA mi$1.80, ph$1.80 59-22426

Trans. of Elekt[richeskaya i] Teplovoz[naya] Tyaga (USSR) 1958, no. 3, p. 9-10.

The most frequent faults occurring in the DPE-400 traction motors are examined and suggestions for eliminating them are presented.

Shur, R.
"MOSKVICH" WITH DELIVERY TYPE TRUCK BODY. (Avtomobil "Moskvich" c Kuzovom Furgon) tr. by Stephen Evanusa. [1959] 3p. (2 figs. omitted). H-3522 C.
Order from OTS $0.50 59-21212

Trans. of Avtomobil'nyy Transport (USSR) 1958 [v. 36] no. 12, p. 33.

The Moscow Small-Displacement Motor Vehicle Plant has organized production of a new modification of the "Moskvich" with a delivery truck body (Model 430) possessing a cargo capacity of 250 kg. The body is of the closed type, three-door, all-metal weight-carrying design. This version of the vehicle utilizes a maximum number of parts and assemblies of the chassis and body of the basic model, and also of the "Moskvich-423" with universal body in production at the present time. In contradistinction to the universal body, there is no rear seat in this new model. The resulting space is utilized for carrying a greater load. (Extracted from the report)

MATERIALS

[NEW OF INSTITUTES OF HIGHER LEARNING. TECHNOLOGY OF LIGHT INDUSTRY] TABLE OF CONTENTS (Soderzhaniye) tr. by Hadel. [1959] [4]p. H 3333A.
Order from OTS $0.50 59-21179

Partial trans. (table of contents) of [Izvestiya Uchebnykh Zavedeniy. Tekhnologiya Legkoy Promyshlennosti] 1958, Jan.

Covers leather, footwear, sewing, and knitted wear industries.

Estrin, M. I.
DESIGN OF THE VIBRATING BEAMS OF CONCRETE FINISHING EQUIPMENT (K Raschetu Vibrobrus'yev Betonostdeloshnykh Mashin) tr. by R. C. Halsall. Feb 59 [7]p. Library Communication no. 722; M513.
Order from LC or SLA mi$1.80, ph$1.80 59-22561

Trans. of Stroi[tel'noye] i Dorozh[noye] Mashinostro[yeniye] (USSR) 1958, v. 3, no. 8, p. 16-18.

Ceramics and Refractories

OGNEUPORY (USSR) 1959 [V. 24] NO. 10, P. 433-480 (Refractories). [1959] [9]p. SOV-131-59-10-(1-10)/10.
Order from OTS $0.50, $3.00/6 mo. PB 141 134T-22
Foreign $0.75, $4.50/6 mo.

Consists of abstracts in English.

Hansel, Wladyslaw.
ANALYSIS OF REPAIR COSTS AND PRODUCTION INDEXES OF BASIC HEARTH FURNACES WITH SILICA OR CHROMITE-MAGNESITE VAULTS.
3 June 59, 35p. 3 refs. JPRS: L-1129-D.
Order from OTS $0.50 59-11315

Trans. of Hutnik (Poland) 1958, v. 25, no. 4/5, p. 142-156.

The analysis indicated that in all cases the cost of repair for furnaces with chromite-magnesite vaults is higher than for furnaces with silica vaults. Only in certain cases and from a strictly metallurgical point of view, should furnaces with chromite-magnesite vaults be left, in spite of their high cost of repair. Present lengthy repair periods for chromite-magnesite furnaces prevent the achievement of a better coefficient of calendar time utilization, and the same applies to the achievement of higher production. Furnaces with chromite-magnesite vaults may fail; that is, permanent durability of vaults is not to be expected. Achievements for Polish furnaces with chromite-magnesite vaults are within the range of the coefficients for European furnaces. The Bobrek Steel Works Foundry achieved the best results. The best chromite-magnesite furnace is the Kosciuszko Steel Works furnace no. 5. The poorest results were shown by the 100-ton capacity reverberatory furnaces. They should be rebuilt as stationary furnaces and then equipped with chromite-magnesite vaults. Achievements by furnace no. 5 of the Kosciuszko Steel Works and furnace no. 8 of the Bobrek Steel Works indicate that a furnace, operating below the maximum limit of heat, shows a prolonged duration of the vault and a high coefficient of the utilization of calendar time; at the same time, low efficiency. The furnace kept to the maximum limit of heat shows high efficiency and annual production, lower coefficient of utilization of calendar time, and larger use of refractory materials.

Bogoroditskiy, N. P. and Polyakova, N. L.
DIELECTRIC LOSSES OF ALUMINIUM OXIDE.
[1959] 5p. 4 refs. A. C. S. I. L. Trans. no. 1114.
Order from SLA mi$1.80, ph$1.80 60-10772

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1954, v. 95, no. 2, p. 257-259.

Fuels, Lubricants, and Hydraulic Fluids

Agranat, N. N. and Volarovich, M. P.
THE CALCULATION OF THE LIMITING SHEAR STRESS OF DISPERSE SYSTEMS IN EXPERIMENTS WITH A CONICAL PLASTOMETER, tr. by Lionel Mote. [1959] [13]p. 25 refs. Trans. no. 1001; M 323.
Order from LC or SLA mi$2.40, ph$3.30 59-19178

Trans. of *Kolloidnyy Zhurnal (USSR) 1957, v. 19, no. 1, p. 3-8.

The limiting shear stress, θ, was measured for several greases. Six different types of apparatus were used: a rotating viscometer RV-4, a vertical displacement plate and cylinder, the Tolstoi conical apparatus, a Simonyan type capillary apparatus, and a Rebinder conical plastometer. All the methods gave values of θ which agreed fairly well, although the value calculated from measurements with the conical plastometer according to the well known approximate formula ($\theta = KP/h^2$) by Rebinder (Colloid J. USSR 10: 466, 1948) was 1.5 to 2.5 times the value obtained by the other methods. (See also 59-19179)

Chertkov, Ya. B. and Zrelov, V. N.
THE LOW TEMPERATURE PROPERTIES OF HYDROCARBON FUELS (PHASE CHANGES OF FUELS) (Nizkotemperaturnye Svoystva Uglevodorodnykh Topliv) tr. by R. E. Daisley. [1959] [26]p. 9 refs. Trans. 1003; M 325.
Order from LC or SLA mi$2.70, ph$4.80 59-19180

Trans. of Khimiya i Tekhnologiya Topliv [i Masel] (USSR) 1956 [v. 1] no. 9, p. 11-22.

All fractions of commercial fuels which boil at temperatures below 200°, independently of their origin and methods of processing, have crystallization temperatures below -60°. The turbidity, observed in fuels long before their solidification or crystallization, is determined by the amount and hygroscopicity or aromatic hydrocarbons, and also by the amount and crystallization temperature of n-paraffinic hydrocarbons. The crystallization of fuel is determined by the presence of aliphatic hydrocarbons of normal structure, mainly paraffins, and also of bicyclic aromatic hydrocarbons having not more than two carbon atoms in their side chains. The monocyclic naphthenic and aromatic hydrocarbons of fuels, boiling at temperatures above 200° do not crystallize. They are characterized by loss of mobility and, on further cooling, by transition to the amorphous state, and finally, by conchoidal fracture. The amount of supercooling of fuel mixtures containing n-paraffinic hydrocarbons is small. For monocyclic naphthenic and, in particular, aromatic hydrocarbons, the temperature difference between losing and regaining mobility is considerable. For practical purposes it may be considered that the crystallization temperature of fuel mixtures depends on the crystallization and fracture temperatures of the components, and not on their chemical structure and fractional composition. (Author's conclusions)

Inozemtsev, N. N.
INVESTIGATION OF THE NORMAL FLAME PROPAGATION RATE FOR HYDROCARBON FUELS [Issledovaniye Normal'noy Skorosti Rasprostraneniya Plameni Uglevodorodnykh Topliv]. 1959, 10p. 5 refs.
Order from AIS $12.00 AIS 584-9

Trans. of Izvestiya Vysshykh Uchebnykh Zavedeniy. Aviatsionnaya Tekhnika (USSR) 1958, no. 4 [p. 72-80].

Kiene, H.
TESTING OF SAE 80 AND SAE 90 GEAR TRANSMISSION OILS, tr. by Lubomyr O. Hewko. [1959] [16]p. 3 refs.
Order from SLA mi$2.40, ph$3.30 60-10747

Trans. of ATZ [Automobiltechnische Zeitschrift] (Germany) 1958, v. 60, no. 8, p. 225-228.

Kulish, F. D.
INDUSTRIAL EXPLOITATION OF THE SUB-MOSCOW STATION "PODZEMGAZ". [1959] 12p. 1 ref.
Order from LC or SLA mi$2.40, ph$3.30 59-22338

Trans. of Podzemnaya Gazifikatsiya Ugley (USSR) 1957, no. 2, p. 27-31.

See also 59-22340

Kusakov, M. M., Konovalova, L. A., and Avdeyeva, V. I.
THE EFFECT OF PRESSURE ON THE VISCOSITY OF SOLUTIONS OF SOME ORGANO-SILICON LIQUIDS IN MINERAL OILS, tr. by R. E. Daisley. [1959] [9]p. 9 refs. Trans. 1007; M 327.
Order from LC or SLA mi$1.80, ph$1.80 59-19182

Trans. of Khimiya i Tekhnologiya Topliv i Masel (USSR) 1957 [v. 2] no. 4, p. 38-41.

The viscosity/pressure relationship for solutions of polysiloxane liquids in mineral oil was studied at various temperatures. The viscosity was measured at pressures up to 3000 kg/sq cm and temperatures from 10° to 50°C in a high-pressure viscometer based on the falling sphere principle. The effect of the polysiloxane liquids was stronger the higher the pressure, for all temperatures. Small additions of ethylpolysiloxane liquids had the greatest effect, particularly at high pressures, sharply reducing the relative viscosity, η_p/η_o, of the solutions in comparison with AU oil without additive. (The polysiloxane liquid that reduced the viscosity of the AU oil is itself more viscous than AU oil.) If the more viscous ethylpolysiloxane liquid is added to the less viscous AU oil under conditions of atmospheric pressure and $p < p_1$ (p_1 is the pressure above which the viscosity isobars exhibit a minimum), a monotonic increase of viscosity is observed: at $p > p_1$ a decrease occurs. For $p \approx p_1$ the viscosity first (with a small concentration of ethylpolysiloxane liquid) decreases, and then increases. If the less viscous AU oil is added to ethylpolysiloxane liquid the viscosity decreases at pressures. The effect of bis-(pentaalkyldisylyloxy) methane with various organic radicals from CH_3- to C_4H_9- on the viscosity of AU oils was studied under the same conditions of temperature and pressure. Amounts up to 0.5 mole/1000 of the above compounds dissolved in AU oil reduced the relative viscosity of the solutions more than that of AU oil. The effectiveness of these compounds increased with pressure.

Matvevsky, R. M.
FRICTION DURING TESTING OF OILS ON FOUR-BALL MACHINE. No. 12 of Friction and Wear in Machines. [1959] [8]p. 6 refs. M 532.
Order from LC or SLA mi$1.80, ph$1.80 59-22710

Trans. of Treniye i Iznos v Mashinakh (USSR) 1958, v. 12, p. 288-294.

A review of previous experimental data.

Ost, Karl.
CRITICAL REMARKS ON EMMISION PROBLEMS IN THE NORTHERN RUHR. [1959].
Order from MDF MDF O-108

Trans. of Brennstoff-Chemie (West Germany) 1956, v. 37, no. 19/20, p. 310-317.

Semenenko, D. K. and Turchaninov, I. A.
THE BEHAVIOUR OF ROCK STRATA DURING UNDERGROUND GASIFICATION, tr. by P. R. Wilson. 11 June 58 [12]p. 4 refs.
Order from LC or SLA mi$2.40, ph$3.30 59-19319

Trans. of P[odzemnaya] G[azifikatsiya] U[gley] (USSR) 1957, no. 4, p. 31-39.

Changes effected by the thermal reactions of the oxidation conditions in the properties and structure of strata containing the seam at the Lower Moscow Basin, the Kuzbass and Angrensk deposits were studied under laboratory conditions, as were the properties of the ash remaining from the Lower Moscow coals.

Shapiro, M. Y.
THE CHOICE OF PRESSURE BLOWERS FOR THE "PODZEMGAZ" STATIONS, tr. by Botcharskaya. 14 Nov 58, 13p. 5 refs.
Order from LC or SLA mi$2.40, ph$3.30 59-19318

Trans. of Podzemnaya Gazifikatsiya Ugley (USSR) 1957, no. 2, p. 79-86.

Ventsel', S. V.
COMPOSITION OF MECHANICAL ADMIXTURES IN USED ENGINE OILS (Sostav Mekhanicheskikh Primesey v Rabotavshikh Motornykh Maslakh). Apr 58 [5]p. (2 figs. omitted) 10 refs. C. T. S. no. 467.
Order from LC or SLA mi$1.80, ph$1.80 59-22236

Trans. of Akademiya Nauk SSSR. Otdeleniye Tekhnicheskikh Nauk. Izvestiya, 1957, no. 1, p. 153-156.

The basic inorganic component of the mechanical admixtures in used oils is α-iron. The bigger metallic particles are covered with a visible film of ferric oxide, the film thickness lying between 460 and 720 A. It is assumed that hydrated γ-ferric oxides form the basis of these films.

Vinogradov, G. V. and Lebedev, V. G.
ON THE PROPERTIES OF PARAFFIN-BASE OILS AT LOW TEMPERATURES, tr. by R. E. Daisley. [1959] [15]p. 5 refs. Trans. no. 1023; M 351.
Order from LC or SLA mi$2.40, ph$3.30 59-22420

Trans. of Khimiya i Tekhnologiya Topliv [i Masel] (USSR) 1956 [v. 1] no. 3, p. 54-58.

Zaslavskiy, Yu. S. and Shor, G. I.
RADIOCHEMICAL INVESTIGATION OF THE MECHANISM OF ADDITIVES WHICH REDUCE CORROSIVE WEAR IN THE CYLINDER-PISTON ASSEMBLY OF AN ENGINE, tr. by R. E. Daisley. [1959] [19]p. 8 refs. Trans. 1004; M 326.
Order from LC or SLA mi$2.40, ph$3.30 59-19181

Trans. of Khimiya i Tekhnologiya Topliv [i Masel] (USSR) 1957 [v. 2] no. 9, p. 41-49.

The investigations showed that electrochemical corrosion is the principal cause of the wear of rubbing pairs during operation in an atmosphere of acid solution vapors. The protection of rubbing surfaces against corrosive wear can be achieved by introducing into the oil additives capable of: (1) neutralizing corrosive acids; (2) entering into chemical reaction with the metal of the rubbing surfaces with the formation of a strong protective film on the surface of the metal; and (3) entering into chemical reaction with the metal of the rubbing surfaces and forming a protective film from the reaction products with simultaneous reduction of the coefficient of friction and the erosive wear connected with it. The most promising additives having a neutralizing mechanism of action are soaps soluble in oil, which are capable of hydrolysis in aqueous solution and give an alkaline reaction. In this the metal ions of the additive must combine with the anions of the acid to form salts readily soluble in water and therefore not exerting any abrasive action on the rubbing surfaces.

Leather and Textiles

Boenig, H. and Beniers, M.
A NEW APPARATUS FOR THE DETERMINATION OF THE DEGREE OF RIPENESS OF VISCOSE, tr. by Helen T. Reed. Nov 54 [7]p. 13 refs.
Order from SLA mi$1.80, ph$1.80 60-10770

Trans. of Melliand Textilberichte (West Germany) 1954, v. 35, no. 10, p. 1119-1121.

The new type of determination is based on the Hottenroth method, however 20% ammonium chloride solution is used as the electrolyte to speed up the gel-formation. Instead of a glass rod, an agitator driven by a synchronous motor is used. A graduated vessel made of plexiglass is centered on a rotating disk. A torque is exerted on the disk by the stirrer, by means of mechanical connection, which depends on the consistency of the viscose solution in the graduated vessel. The principle of measurement is based on the determination of this torque during the addition of the ammonium chloride solution. A certain torque value corresponds to the coagulation point. It can be found by mounting a spring underneath the rotating disk, the deflection of which corresponds to the torque and hence to the consistency of the solution, i.e. titration is carried out up to a certain deflection of the spring. A machine working completely automatically and with great measuring sensitivity was constructed on the basis of this principle, which allows the degree of ripeness to be determined with an error of less than 1%. It constitutes a modification of the "Structure Viscosimeter with Completely Automatic Indication" built by us. (Extracted from the report)

Dolmetsch, Hans.
DISINTEGRATION, CONSERVATION, AND NEW FORMATION OF ORDERED STRUCTURAL AREAS IN CELLULOSE DURING REPRECIPITATION (Uber Zerfall, Erhaltung und Neubildung Geordneter Strukturbereiche der Cellulose im Verlaufe der Umfällung) tr. by E. Pichler. [1959] [28]p. 16 refs. Trans. no. 4439.
Order from SLA mi$2.70, ph$4.80 60-10904

Trans. of das Papier (West Germany) 1959, v. 13, no. 3/4, p. 37-44.

(Abridged from a comprehensive paper, read at the conference of the "Zellcheming" Society at Heidelberg, in July, 1957. Received September, 1958).

Kratky, O., Porod, G., and Treiber, E.
X-RAY STUDY OF THE PROCESSES OF DEFORMATION IN HERMANS' HYDRATE CELLULOSE FILAMENTS. [1959] 32p. (4 tables 15 figs. equations refs. omitted).
Order from SLA mi$3.00, ph$6.30 60-10768

Trans. of Kolloid-Zeitschrift (West Germany) 1951, v. 121 [no. 1/2] p. 1-20.

Matthaes, Werner.
THE ABBREVIATED PROCEDURES OF VISCOSE MANUFACTURING. [1959] [6]p. 18 refs.
Order from SLA mi$1.80, ph$1.80 60-10765

Trans. of Faserforschung und Texteltechnik (Germany) 1955, v. 6, no. 9, p. 398-401

Procedures are discussed which lead to a considerable shortening of the process for the manufacturing of viscose from non-depolymerized cellulose, and conditions are reported according to which easily filterable viscoses with a normal alkali ratio can be obtained. Alkalizing is suitably carried out with a lye of 280 to 320 g/liter, and first aging is carried out by means of an appropriate increase in alkalizing and shredding temperature. Chemical first aging with the use of oxidizing agents as accelerators of first aging is less advantageous, as then alkalizing and sulfidizing must take place in separate installations. The use of persulfates is more advantageous than that of hydrogen peroxide and percarbonate, because these require higher first aging temperatures. Sodium sulfide as an accelerator produces "smearing" of the alkali-cellulose and consequently seems to make sulfidizing more difficult. Also, it leads to an increase in the iron content of the viscose, which can lead to difficulties in the after-treatment of the fibers. Sulfidizing is carried out to advantage at decreasing temperatures, whereby dissolving water can already be

added during sulfidizing. A simple apparatus is described, in which both alkalizing and first aging, as well as sulfidizing and dissolving into viscose can be carried out. (Author)

Milov, B. G. and Vitovtova, M. I.
DETERMINATION OF THE MORPHOLOGICAL AND CHEMICAL HOMOGENEITY OF CELLULOSE FIBERS. [1959] 15p.
Order from ATS $19.75 ATS-46L32R

Trans. of Tsentral'[nyy] Nauch[no]-Issledovatel'[skiy] Inst[itut] Tsellyuloz[noy] i Bumazh[noy] Prom[yshlennosti]. Nauch[nyye] Trudy (USSR) 1956, no. 41, p. 123-134.

Philipp, Burkart and Dautzenberg, Horst.
INVESTIGATIONS ON THE KINETICS OF SECOND AGING IN VISCOSE. Sep 59 [25]p. 39 refs.
Order from SLA mi$2.70, ph$4.80 60-10777

Trans. of Faserforschung und Textiltechnik (Germany) 1958 [v. 9] no. 8, p. 307-321.

The chemical and colloid-chemical course of second aging at various temperatures in viscoses of slightly aged alkali celluloses was followed up as to its dependence on sulfidizing conditions, the numerical values obtained according to the individual methods were evaluated as far as possible along reaction-kinetic lines, and the results coordinated. In case of the viscoses studied here the chemical progress of aging can be represented by two reactions of the first order occurring successively; in the first, which proceeds faster, the RSC is to a considerable extent co-determined by the sulfidizing conditions, while the RSC of the second, slower one, depends only on the temperature of aging. These two successive reactions are connected with the dissociation of two types of cellulose xathate of different stability. With regard to the γ-behavior, a sulfidizing temperature of 28° C was optimal: otherwise the viscosity values were higher, at 20° C as a result of nonuniform complete xanthation, and at 35° C as a result of greater by-product formation. The rise in viscosity observed at far-reaching xanthation is caused by the very intense by-product formation, as is evident from comparative measurements of pure xanthate solutions. The coagulating ability, characterized according to Matthes by the colloid-chemical flocculation value, is always parallel to the gamma value, down to about γ 20, and can likewise be comprehended by means of a velocity law of the first order as regards its course with time. For gamma values below 20 the flocculation value increases faster, presumably as a result of the beginning formation of a gel structure with solid junction points. The spinnability of a viscose is considerably improved by extensive sulfidizing, above all by resulfidizing in solution, evidently as a result of diminished structure formation. An addition of the spinning auxiliary Berol Visko 31 induces a certain decline in · besides an enormous improvement in spinnability by 200 to 300%, while gamma value and coagulating ability are practically not influenced thereby. (Author)

Schefer, W.
THE PHOTOCHEMICAL BREAKDOWN OF POLYESTER FIBRES (Die Photochemische Schadigung der Polyesterfasern) tr. by D. A. Sinclair. 1959, 61p. (1 fig. omitted) 45 refs. Technical Trans. 812.
Order from NRCC NRCC C-3118

Trans. of Textil-Rundschau (Switzerland) 1958, v. 13, no. 6, p. 336-346 and no. 7, p. 396-411.

The fibres showed a remarkable sensitivity to the influence of the ultraviolet radiation of unweakened (not-screened-by-window-glass) sunlight. Tensile strength, elongation at break, rubbing resistance and other physical properties decreased, depending on the intensity and duration of the exposure, at first rapidly and then after a certain time more slowly. Yellowing and other discolorations did not occur unless unsuitable optical brightening agents were applied, nor could other fibre modifications be observed (post irradiation effects) after exposure. The principal cause of photochemical degradation was the 270 to 340 mμ ultraviolet rays. In this region polyester fibres are extremely absorbant, more so than all other textiles, with a marked maximum at 285 mμ and 310 mμ. The rupture of C-O bonds of the molecule chains is a chief cause of fibre degradation while less important are the effects on the intermolecular hydrogen bridges. Exposed fibres have a smaller viscosimetric molecular weight, but in general their solubility (in sulphuric acid or warm m-cresol) is not reduced. The degradation process is not substantially influenced by a change either of atmospheric humidity or fibre temperature.

Takagi, Takeo.
THE TOHO C-D-PROCESS: A SIMPLIFIED AND MORE ECONOMICAL MANUFACTURING PROCESS FOR STAPLE YARN, tr. by Helen T. Reed. Nov 54, [3]p.
Order from SLA mi$1.80, ph$1.80 60-10787

Trans. of Textil-Praxis (West Germany) 1954 [v. 9, no. 7, p. 607].

Photographic Materials

Kagan, R. N. and Lavrov, I. S.
ORGANOSOLS AS ACTIVATORS FOR A ONE-STEP PHOTOGRAPHIC PROCESS, I. [1959] 8p. (1 fig. omitted) 9 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-10894

Trans. of Tekhniches[kiy] Inst[itut] im[eni] Leningrad[skogo] Soveta. Trudy (USSR) 1957, v. 37, p. 154-158.

The simple CoS, NiS, CdS, and ZnS organosols were obtained, as were also the mixed organosols of the same sulfides in absolute ethyl alcohol, when a solution of cellulose nitrate in an alcohol-ether mixture was added as the protective agent. A method was worked out for preparing the same sols without using

any carefully dehydrated salts and on the basis of 96.5% ethyl alcohol. Photographic properties of the organosols obtained were tested when the sols were used as activators of the receiving layer in an internal one-step photographic process. The mixed CoS-NIS-CdS-ZnS-Ag_2S sol can be recommended as the most active. The ultramicroscopic and electron microscopic pictures of the state of the protected sols agree with the contemporary interpretations of the mechanism of protection of colloidal particles. (Author)

Novikova, N. P.
EFFECT OF IODIDE ON THE PROPERTIES OF EXTRA FINE-GRAIN NUCLEAR EMULSIONS. [1959] 11p. 12 refs. T-3077.
Order from LC or SLA mi$2.40, ph$3.30 60-10593

Trans. of Zhurnal Nauchnoy i Prikladnoy Fotografii i Kinematografii (USSR) 1959, v. 4 [no. 1] p. 49-55.

Sheberstov, V. I.
INVESTIGATION OF THERMAL RELATIONSHIPS AND THE ACTIVATION ENERGY OF PHOTOGRAPHIC DEVELOPMENT. [1959] 23p. 22 refs.
Order from LC or SLA mi$2.70, ph$4.80 60-14018

Trans. of Vsesoyuznyy Nauchno-Issledovatel'skiy Kinofotoinstitut. Trudy (USSR) 1957, no. 10(20) p. 77-93.

Experiments are described which showed that the fog development activation energy (Ef) decreases continuously when the time of finishing increases, while the rate is especially rapid after the light sensitivity passes through the maximum during finishing. The image development activation energy (Ei) decreases during finishing only until the maximum light sensitivity is reached. After this it either increases only slightly or remains practically unchanged. The difference between the fog and image development activation energies ($\Delta E = Ef - Ei$) during finishing reaches a maximum value at the moment when the light sensitivity reaches the maximum. The degree of selective power of developer (U) also reaches the maximum value when the light sensitivity reaches maximum. Adding iodide to the silver bromide emulsion leads to an increase in the values of development activation energy both for fog and image. Adding chloride to the silver bromide emulsion reduces the values of the fog and image development activation energy, while the difference ΔE decreases when the relative content of chloride in the emulsion is increased. Results suggest that the developer has a selective power on the photographic emulsion only where the fog development activation energy is sufficiently high. The more the values of the fog and image development activation energies differ from one another, the greater is the degree of selective power of the developer, if all other conditions remain equal.

Plastics

PROCESS FOR COLORING POLYURETHAN PRODUCTS. [1959] 10p. 1 ref.
Order from RIS $16.50 RIS rept. 61032

Trans. of German Patent application F 22200 (39b, 22/04) DAS 1 032 525, filed 23 Jan 57, pub. 19 June 58, by Farbenfabriken Bayer A. G., Leverkusen.

Patent rights are claimed for a process for producing colored synthetics from polyisocyanates, polyhydroxyl compounds and cross-linking agents and monomeric compounds suitable for polymerization alongside of these when necessary while moulding. The process is characterized in that a soluble inorganic nitrite or an aliphatic ester of nitrous acid with one or more amino or hydroxyl group-containing developer compounds is converted at room temperature or higher in the starting materials used for production of the synthetic or in their mixtures or liquid reaction products respectively. An alkali metal nitrite is used as the inorganic nitrite.

PROCESS FOR MANUFACTURING RIGID POLYURETHAN FOAMS OF HIGH HEAT STABILITY. [1959] 7p.
Order from RIS $12.25 RIS rept. 61028

Trans. of German patent application F 20 797 (39b, 22/04) DAS 1 020 179, filed 14 July 56, pub. 28 Nov 57, by Farbenfabriken Bayer A. G., Leverkusen.

Rights are claimed to a process for manufacturing high porous rigid light materials by conversion of polycondensation products with an excess of polyisocyanate and with the addition of water. The process is characterized in that the polycondensation product used is a branched polyester and/or polyester amide with terminal hydroxyl and possibly carboxyl groups and groups of at least one aromatic polybasic carboxylic acid and at least one unsaturated fatty acid and a minimum OH number of 250. The polyester and/or polyester amide used has tertiary amine groups condensed into it.

PROCESS FOR STANDARDIZING THE VISCOSITY OF POLYURETHAN FOAMS. [1959] 7p. 1 ref.
Order from RIS $12.75 RIS rept. 61030

Trans. of German patent application F 11991 (39b, 22/04) DAS 1 022 787, filed 29 May 53, pub. 16 Jan 58, by Farbenfabriken Bayer, A. G., Leverkusen-Bayerwerk.

A process is presented for producing foams by conversion of reaction products of liquid polycondensates with several active hydrogen atoms and a deficit of liquid polyisocyanates with additional polyisocyanates, possibly with the addition of bifunctional low

molecular compounds. The process is characterized in that the reaction product used is the conversion product of liquid polycondensates with several active hydrogen atoms and a deficit of liquid polyisocyanates with a viscosity between 500 and 5000 cP, measured at a temperature of 75°. The reaction product is mixed with the additional isocyanate and possibly the bifunctional compounds in a mechanical spray device.

PRODUCTION OF FLEXIBLE AND RIGID POLYURETHAN FOAMS FACILITATED. [1959] 16p. 1 ref.
Order from RIS $29.00 RIS rept. 61024

Trans. of German patent application F 21470 (39b, 22/04) DAS 1 027 394, filed 22 Oct 56, pub. 3 Apr 58, by Farbenfabriken Bayer A. G., Leverkusen.

A process is described for producing foams from polyhydroxyl and polycarboxyl compounds and polymers exhibiting at least two isocyanate groups in alteration of the process according to German patent application F 21339 IV b/39 b. The process characterized in that instead of solutions containing more than one NCO group and an isocyanic acid, ring solutions containing high molecular polymeric reaction products of monomeric di- or polyisocyanates, having more than one NCO group are used with a deficient quantity of compounds containing reactive hydrogen atoms. The production of the foams is carried out in the presence of liquid plasticizers and/or flame-inhibiting agents, these being preferably added to the solutions of the liquid polymeric reaction products containing more than one NCO group.

Vartanyan, A. T. and Karpovich, L. A.
THE PHOTOCONDUCTIVITY OF DYED ORGANIC FILM WHEN EXPOSED TO VISIBLE LIGHT (O Fotoprovodimosty Okrashennykh Organicheskikh Plenok pri Osveshchenii Vidimym Svetom) tr. by D. A. Sinclair. 1959, 19p. 9 refs. Technical Trans. 815.
Order from NRCC mi$1.00 NRC C-3121

Trans. of Zhur[nal] Fiz[icheskoy] Khim[ii] (USSR) 1954, v. 28, no. 5, p. 856-864.

Experiments showed that collodion films dyed with dyes in the form of salts (crystal violet, fuchsin, methylene blue, phloxin, pinaverdol and cyanin) possess very high electrical conductivity compared with the undyed films. The electrical conductivity of a dyed collodion film depends on the method and duration of processing. The electrical conductivity of dyed collodion films decreases with vacuum and thermal processing. When a constant voltage is applied to a dyed collodion film the electrical conductivity decreases due to the formation of a space charge and to "shaping". For steady current values Ohm's law holds. The electrical conductivity of undyed and dyed collodion films varies within a narrow temperature interval according to an exponential law. For dyed films the activation energy does not depend on the kind of dye and is always less than the activation energy for undyed films. Under prolonged vacuum and thermal treatment of the dye the activation energy for a dyed film approaches the value of the activation energy for the undyed film. No photoconductivity of dyed collodion films was detected on exposure to visible light. The electrical conductivity observed by various authors during exposure to visible light is due not to an internal photo-effect, but to the heating of the dyed film as a result of luminous energy absorption in the natural absorption zone of the dye. Arguments are advanced in favor of the electrolytic nature of the electrical conductivity of dyed collodion films. Photoconductivity was not discovered. (See also 60-10915)

Rubber and Elastomers

Dogadkin, B., Pechkovskaya, K., and Gol'dman, E.
CONCERNING THE STRUCTURE AND REINFORCING ACTION OF COLLOIDAL SILICA AS A SYNTHETIC RUBBER FILLER (O Strukture i Usilivayushchem Deystvii Kolloidnoy Kremnekisloty kak Naplonitelya Sinteticheskogo Kauchuka). Oct 59 [10]p. 7 refs. RTS no. 1230.
Order from LC or SLA mi$1.80, ph$1.80 59-22168

Trans. of Akademiya Nauk SSSR. Doklady, 1958, v. 119, no. 6, p. 1170-1173.

A study of the physico-mechanical properties of vulcanisates containing colloidal silica showed that the higher the extractability of the filler in the given system, the greater the strength of the vulcanisates. All the specimens under test could be arranged in three groups on the basis of the degree of activity: (a) inactive specimens with an extractability of less than 25%; (b) specimens of medium activity with an extractability of 40 to 50%; and (c) active specimens whose extractability is 70 to 100%. The activity of a specimen of colloidal silica can be appreciably lowered by heating to 600°. The relatively low temperature at which these changes are observed indicates a certain instability of the crystal lattice of the silica, probably associated with the precipitation conditions. Recrystallisation evidently occurs at 600° and causes the elementary crystals constituting a particle to pass into another, more stable, crystalline form; this transition is accompanied by a loss of the rubber-reinforcing activity of the material. A technical active specimen dissolved more slowly in 1% aqueous NaOH at all the experimental temperatures than an inactive specimen. Conversely, an active specimen which had been purified by electrodialysis dissolved more rapidly than a similarly treated inactive specimen. Consequently the impurities adsorbed on the surface of silica have a greater inhibiting effect on dissolution of the active modification than of the inactive one. Elimination of these impurities by electrodialysis leads to the active specimen dissolving more quickly than the inactive one. This difference in rates of solution of dialysed products of identical chemical composition points to a difference in structure of the unit cell, the latter being less stable in the case of the active specimen. (See also 59-22719)

Ulbrich, R.
AMERICAN AND RUSSIAN RESEARCH RELATING TO SYNTHESIS OF 1, 4-cis POLYISOPRENE (NATURAL RUBBER). [1959] [16]p. 22 refs.
Order from SLA mi$2.40, ph$3.30 60-14009

Trans. of Gummi und Asbest (West Germany) 1958, v. 11, no. 5, p. 303-307 and no. 6, p. 344-347.

The structural properties of natural rubber and of its configurational equivalent, synthetic 1, 4-cis polyisoprene, are discussed. Connections between polymerization conditions, microstructure, and mechanical properties of the synthetic product are also reviewed. To insure the appearance of technologically valuable properties, the structure of the 1, 4-cis polyisoprene should be as regular as possible. Information about industrial-scale production of 1, 4-cis polyisoprene in the Soviet Union, and methods for obtaining a low-priced isoprene monomer are given. (Author)

Wood and Paper

Billing, O. and Gavelin, G.
ANALYSIS OF STIFFNESS TESTERS. Dec 59, 6p. (6 figs. 2 tables omitted) 2 refs.
Order from SLA mi$1.80, ph$1.80 60-14039

Trans. of Svensk Pappers-tidning (Sweden) 1959, v. 62, no. 8, p. 284-[288].

Three instruments for measuring the stiffness of paper and board were investigated as regards precision, classification capacity and ease of handling. The object of the investigation was primarily to determine which instrument was best suited to routine testing at the Papermill Central Laboratory.

Brecht, W.
INFLUENCE OF THE RELATIVE ATMOSPHERIC HUMIDITY ON PAPER, tr. by R. A. M. Thomson. [1959] 10p. (11 figs. omitted) 35 refs.
Order from SLA mi$1.80, ph$1.80 60-14020

Trans. of [de] Papierwereld (Netherlands) 1958, v. 13, no. 2, p. 35ff.

Brecht, W[alter] and Fühlbeck, E[dwin].
THE RHEOLOGICAL BEHAVIOUR OF PAPER OF VARYING MOISTURE CONTENT WHEN SUBJECTED TO SHORT TENSILE STRAIN. [1959] 7p. (1 table 14 figs. omitted) 16 refs.
Order from SLA mi$1.80, ph$1.80 60-14010

Trans. of das Papier (West Germany) 1959, v. 13, no. 13/14, p. 293-301.

Frasch, J.
RENDERING PAPER OPAQUE WITH THE AID OF COLLOIDAL SOLUTIONS OF ZIRCONIUM, TITANIUM AND OTHER OXIDES. Nov 59, 10p. (9 graphs omitted).
Order from SLA mi$1.80, ph$1.80 60-14025

Trans. of A[ssociation] T[echnique de l'] I[ndustrie] P[apetiere]. Bull[etin] (France). 1955, no. 6, p. 179-186.

A study of the electric charges of different fillers, such as titanium as well as the colloids resulting from the hydrolysis of zirconium salt solutions, has allowed a new process of rendering paper opaque to be developed. Results obtained in French mills are presented. (Lecture given at the 52nd Work Session, 30th June, 1955, at Paris.)

Halank, E.
THE IMPREGNATION OF TIMBER SLEEPERS (Die Imprägnierung von Holschwellen) tr. by E. Pichler. [1959] 30p. Trans. no. 4534.
Order from SLA mi$2.40, ph$4.80 60-10932

Trans. of die Holzschwelle (West Germany) 1959, no. 29, p. 1-23.

MATHEMATICS

Kartzivadze, I. N.
ON THE BEHAVIOR OF THE CAUCHY-TYPE INTEGRALS NEAR THE ENDS OF THE PATH OF INTEGRATION. [1959] 8p.
Order from MDF $4.00 MDF K-180

Trans. from [Akademiya Nauk Grunzinskoy SSR] Tiflis. Mat[ematicheskiy] Inst[itut]. Trudy, 1951, v. 18.

Kvedelidze, B. V.
ON LINEAR SINGULAR INTEGRAL EQUATIONS WITH BASIC KERNEL OF CAUCHY TYPE [O Lineynykh Singulyarnykh Integral'nykh Uravneniyakh s Osobym Yadrom Tipa Koshi]. [1959].
Order from MDF MDF K-177

Trans. of A[kademiya] N[auk] SSSR. Doklady, 1951, v. 76, no. 3 [p. 367-370].
Another translation is available from SLA as RT-926 [4]p.

Kvedelidze, B. V.
ON THE PROBLEMS OF LINEAR CONJUGATES IN ANALYTIC FUNCTION THEORY [O Zadache Lineynogo Sopryazheniya v Teorii Analiticheskikh Funktsii] [1959] 5p.
Order from MDF $2.50 MDF K-181

Trans. of A[kademiya] N[auk] SSSR. Doklady, 1951, v. 76, no. 2 [p. 177-180].
Another translation is available from SLA as RT-1093 [5]p.

Kveselava, D. A.
HILBERT'S BOUNDARY PROBLEM AND SINGULAR INTEGRAL EQUATIONS IN THE CASE OF AN INTERSECTING CONTOUR. [1959] 30p.
Order from MDF $15.00 MDF K-178

Trans. from [Akademiya Nauk Gruzinskoy SSR] Tiflis. Mate[maticheskiy] Inst[itut]. Trudy, 1949, v. 17.

Lebedev, N. N.
SOME SINGULAR INTEGRAL EQUATIONS CONNECTED WITH INTEGRAL EXPANSIONS OF MATHEMATICAL PHYSICS. [1959] 7p. 8 refs.
Order from LC or SLA mi$1.80, ph$1.80 59-20194

Trans. of Akademiya Nauk SSSR. Doklady, 1949, v. 65, no. 5, p. 621-624.

Equations of the form

$$\phi(\chi, \tau) = \mu(\tau) \int_a^\infty K(\chi, s)\phi(s, \tau)\, ds$$

having a complete spectrum $(0, \infty)$ are presented for the Mehler-Fok expansion (Akad. Nauk SSSR Doklady 39: 279, 1943)

$$f(\chi) = \int_0^\infty \tau \operatorname{th} \pi\tau P_{-1/2+i\tau}(\chi)\, d\tau \int_1^\infty f(\xi) P_{-1/2+i\tau}(\xi)\, d\xi,$$

where $P_{-1/2+i\tau}(\chi)$ is Legendre's spherical function having a complex subscript $\nu = -1/2+i\tau$, and for the author's expansion (Akad. Nauk SSSR Doklady 52: 661, 1946)

$$f(\chi) = \frac{2}{\pi^2} \int_0^\infty \tau \operatorname{sh} \pi\tau \frac{K_{i\tau}(\chi)}{\sqrt{\chi}}\, d\tau \int_0^\infty f(\xi) \frac{K_{i\tau}(\xi)}{\sqrt{\xi}}\, d\xi,$$

where $K_{i\tau}(\chi)$ is MacDonald's cylindrical function. The validity of

$$\frac{\operatorname{ch} \pi\tau}{\pi} \int_0^\infty \frac{P_{-1/2+i\tau}(s)}{\chi + s}\, ds = P_{-1/2+i\tau}(\chi),$$

and

$$\frac{\operatorname{ch} \pi\tau}{\pi} \int_0^\infty \frac{e^{-(\chi+s)} K_{i\tau}(s)}{\chi + s} \frac{}{\sqrt{s}}\, ds = \frac{K_{i\tau}(\chi)}{\sqrt{\chi}}$$

for each of the above expansions is proved and used to solve

$$f(\chi) = g(\chi) + \lambda \int_1^\infty \frac{f(s)}{\chi + s}\, ds \qquad (1 < \chi < \infty)$$

and

$$f(\chi) = g(\chi) + \lambda \int_0^\infty \frac{e^{-(\chi+s)}}{\chi + s} f(s)\, ds \qquad (0 < \chi < \infty),$$

where $g(\chi)$ is given function and λ is the parameter that satisfies the condition $-\infty < \lambda < \pi < 1$.

Luchka, A. Yu.
A NEW APPROXIMATE METHOD FOR SOLVING FREDHOLM INTEGRAL EQUATIONS OF THE SECOND KIND; THE METHOD OF AVERAGING FUNCTIONAL CORRECTIONS [Dostatochnoye Usloviye Skhodimosti Metoda Osredneniya Funktsional'nykh Popravok] tr. by James F. Heyda. 23 Mar 59, 7p.
Order from LC or SLA mi$1.80, ph$1.80 XDC 59-4-12

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1958 [v. 122] p. 179-182.

A condition sufficient to guarantee convergence under stated conditions is derived and an example is given for which the present method succeeds but for which the usual method of successive approximations fails.

Makhmudov, Yu. A.
OUTPUT DEVICE OF A GENERAL PURPOSE DIGITAL COMPUTER USING MAGNETIC (FERRITE) ELEMENTS. 27 Nov 59, 23p. 2 refs. JPRS: 1047-D.
Order from OTS $0.75 59-31047

Trans. from Akademiya Nauk Azerbaydzhanskoy SSR [Baku]. Izvestiya, 1958, no. 6.

The output device consists of a printer and its control circuit. The ST-35 telegraph set is used as the printer, the application of which makes possible at the same time printing of the computed results and their perforation on a perforated tape. Thus, the information copied on the perforated tape may be introduced again into the computer if it is necessary for the solution of other problems. It is possible to print the results of the calculations from the arithmetic as well as from the computer's memory device. In particular, the output device may be utilized for checking the permanent-memory-device building blocks. Results of calculations are printed in the decimal number system. Central control by the computer provides simultaneous operation of the printing device with the arithmetic unit, i.e., if after the first instruction in which there is conversion by the output device another instruction will proceed in which there is no conversion by the output device, and the latter is performed by the computer. But if on the next instruction, there is conversion by the output device, the latter instruction cannot be executed. This instruction is stored in the instruction analysis device until the completion of printing of the preceding instruction. Only after this is the next instruction performed which is stored in the UAK. Such control also permits simultaneous printing of the results and permits performing other operations. Simultaneous operation of the printing device and the arithmetic unit is possible because the conversion of numbers from the binary system to the decimal (binary-coded decimal system) is performed by a special circuit built into the output device. Therefore, arithmetic elements are not required for conversion.

Vekua, N. P.
ON A HILBERT PROBLEM WITH DISCONTINUOUS COEFFICIENTS AND ITS APPLICATION TO SINGULAR INTEGRAL EQUATIONS. [1959] 6p.
Order from MDF $3.00 MDF V-130

Trans. from [Akademiya Nauk Gruzinskoy SSR] Tiflis. Mat[ematicheskiy] Inst[itut]. Trudy, 1951, v. 18.

MECHANICS

Akivenson, M. Yu.
THE THREE DIMENSIONAL BENDING OF A DISCONTINUOUS BAR (Prostranstvennoye Vypuchivaniye Lomanogo Sterzhnya) Oct 58 [7]p. TIL/T. 4876; M 523.
Order from LC or SLA mi$1.80, ph$1.80 59-22570

Trans. of Politekh[nicheskiy] In[stitut, Odessa]. Nauch[nyye] Zap[iski] (USSR) 1955, v. 5, no. 2, p. 81-85.

A solution of the problem of plane bending of a two-dimensional discontinuous bar system is suggested which is based on the method of initial parameters in the form developed by A. P. Korobov for the case of the two-dimensional deflection of a discontinuous bar system loaded in bending compression.

Magnus, Kurt.
ON A METHOD OF INVESTIGATING NONLINEAR SYSTEMS OF OSCILLATIONS AND OF SERVO-MECHANISMS (Über ein Verfahren zur Untersuchung nichtlinearer Schwingungsund Regelunga-Systeme) tr. by Mary L. Mahler. Oct 58 [88]p. 23 refs. CC L-398.
Order from LC or SLA mi$4. 80, ph$13. 80 59-16776

Trans. of VDI-Forschungsheft (West Germany) 1955, no. 451.

An approximate theory for investigating the existence, amplitude, frequency, and stability of steady oscillations in a nonlinear system is presented. Also, the stability boundary is divided into "dangerous" and "nondangerous" parts. The approach used is a combination of the "method of harmonic balance," developed for nonlinear systems by Krylow and Bogoljubow, and the Hurwitz criteria for the stability of linear systems. No estimate of the quantitative error in the method for large oscillations is obtained. Many examples are presented. (NASA abstract)

Narimanov, G. S.
THE MOTION OF A SYMMETRICAL GYROSCOPE, THE CAVITY OF WHICH IS PARTLY FILLED WITH A FLUID (O Dvizheniy Simmetrichnogo Giroskopa, Polost' Kotorogo Chastichno Zapolnena Zhidkost'yu) tr. by J. W. Palmer. Nov 58 [10]p. Library Trans. no. 787; M 467.
Order from LC or SLA mi$1. 80, ph$1. 80 59-22534

Trans. of Prikl[adnaya] Mat[ematika] i Mekh[anika] (USSR) 1957, v. 21, no. 5, p. 696-700.
Another translation is available from LC or SLA mi$2. 40, ph$3. 30 as 59-12164, F-TS-9524/V [1958] 11p.

Sheremet'yev, M. P. and Prusov, I. O.
DETERMINATION OF THE PRESSURE ON REINFORCING RODS WITHIN AN APERTURE IN AN ENDLESS PLATE WHEN THE LATTER IS STRETCHED IN TWO DIRECTIONS. [1959] [15]p. 3 refs. NA-8P.
Order from LC or SLA mi$2. 40, ph$3. 30 59-16727

Trans. of Prykladna Mekhanika (USSR) 1955, v. 1, no. 4, p. 378-390.

Aerodynamics and Pneumatics

Abramovich, G. N.
THE TURBULENT JET IN A MOVING FLUID (Turbulentnaya Struya v Dvizhushcheysya Srede) tr. by F. N. Kirk. Oct 58 [15]p. 15 refs. Library Trans. no. 778; M 465.
Order from LC or SLA mi$2. 40, ph$3. 30 59-22532

Trans. of Akademiya Nauk [SSSR]. Otdeleniye Tekhnicheskikh Nauk. Izvestiya, 1957, no. 6, p. 93-101.

This is an analysis (dated 1957) reviewing the existing information on the subsonic jet placed in a general stream flowing in the same direction. It covers two-dimensional and axisymmetrical jets and the main characteristics considered are: lateral spread, length of core and mixing regions, velocity, temperature and density profiles, and in the case of a jet of fluid differing from the surrounding medium, the profile of relative concentration. (Royal Aircraft Establishment abstract)

Ackeret, Jakob
ON THE TEMPERATURE DISTRIBUTION BEHIND CYLINDERS IN A FLOW (Uber die Temperaturverteilung hinter angeströmten Zylindern). Aug 59, 18p. 7 refs. NASA Technical Trans. F-2.
Order from OTS $0. 50 59-21109

Trans. of [Eidgenössische] Tech[nische] Hochschule, Zürich. Inst[itut] für Aerod[ynamik]. Mitt[eilungen] (Switzerland) 1954, no. 21, p. 5-21.

A simple theoretical explanation of the aerodynamic cooling often found near the base and in the wake of bluff bodies is presented. The theory is based on compressible potential flow and makes use of the energy increment associated with the unsteady velocity-potential term of the energy equation in calculating the temperature at a point in unsteady flow for the general case. The case of two-dimensional flow past a cylinder is examined in detail. The calculated temperature distribution around a cylinder assuming the flow incompressible is compared with a distribution found experimentally at $M = 0.35$. The comparison tends to verify the theoretical explanation. (NASA abstract)

Gandel'sman, A. F., Gukhman, A. A., and Ilyukhin, N. V.
INVESTIGATION OF THE DRAG COEFFICIENT VARIATION FOR SUPERSONIC GAS FLOWS. [1959] 18p.
Order from MDF $9. 00 MDF G-102

Trans. of Teploenergetika (USSR) 1955, v. 2, no. 1, p. 17-23.

Krasil'shchikova, E. A.
UNSTEADY MOTION OF A FINITE SPAN WING IN A COMPRESSIBLE MEDIUM. [1959] 5p.
Order from MDF $2. 50 MDF K-171

Trans. of A[kademiya] N[auk] SSSR. Doklady, 1957, v. 117, no. 5, p. 777-780.

Lifshits, A. G.
THE CONVERSION OF GAS VELOCITY INTO PRESSURE IN A DIFFUSER (O Preobrazovanii Skorosti Gaza v Davleniye B. Diffuzore) Apr 59 [5]p. 4 refs. TIL/T. 4942; M 525.
Order from LC or SLA mi$1.80, ph$1.80 59-22572

Trans. of [Ural'skiy Politekhnicheskiy Institut, Sverdlovsk. Trudy] (USSR) 1955, v. 41, p. 112-116.

A system of equations is analyzed which connects all values characteristic of the determination of the geometrical dimensions of the diffuser and the state of the gas during motion in the latter, and of the determination of the Mach dependent equations relative to the inlet section of the diffuser and the ratio of specific heats $c_p/c_v = k$. The degree of compression increases with increase in the value of k, while the influence of the latter is observed in practice only when the initial velocity is reduced to a half. Curves are presented which show that in practice the lowering of the initial velocity of the gas in the diffuser to less than a fifth is purposeless since even a small further increase in the initial pressure of the gas causes a considerable increase of the outlet cross-section of the diffuser, and of its length, consequently, an increase in the coefficient of losses by friction. The curves characterise the limit of practical usefulness of the conversion of gas velocity into pressure in a diffuser.

Schmidt, Rudolf.
AIR LOGS FOR THE MEASUREMENT OF SUBSONIC AND SUPERSONIC SPEEDS (Luftlogs für die Messung von Unterand Überschallgeschwindigkeiten) tr. by Mary L. Mahler. Oct 58 [29]p. 7 refs. CC-L-404.
Order from LC or SLA mi$2.70, ph$4.80 59-16780

Trans. of Zeitschrift für Flugwissenschaften (West Germany) 1953, no. 7, p. 175-183.

A discussion is given of the mechanical and aerodynamical requirements for air logs which must be set up if they are to give a satisfactory accuracy over a wide range of speeds (up to the range of supersonic speeds) and up to high flight altitudes. The theoretical considerations show that these requirements can be met and that air logs are superior to all other devices or methods for measuring speeds. A new type of air log which was developed along these lines is briefly described.

Tarasenkov, A.
INTERCEPTION FLIGHT (Polet na Perekhvat). 8 Oct 59 [6]p. AF 1256177.
Order from LC or SLA mi$1.80, ph$1.80 59-22147

Summary trans. from Sovetskaya Aviatsiya (USSR) 1959, 5 Aug, p. 2.

Zalmanzon, L. A. and Semikova, A. I.
PNEUMATIC JET ELEMENT CHARACTERISTICS (Issledovaniye Kharakteristik Struynykh Elementov Pnevmoavtomatiki) tr. by S. E. [1959] 27p. (figs. omitted) 5 refs. H-4083.
Order from OTS $0.75 59-21162

Trans. of *Avtomatika i Telemekhanika (USSR) 1959, v. 20, no. 4, p. 447-467.

An investigation is made of the characteristics of pressure change received by a tube as it is moved in various sections of an air jet emitted from a nozzle. Specific problems are encountered in connection with the small dimensions of nozzles of nozzle-tube elements and with the possible effect of the tube dimensions on the characteristics obtained. The investigation covers (1) the extent to which the data associated with free jets may be applied in computing the characteristics of nozzle-tube elements (2) an analysis of functional transforms by this type of element, (3) the possible differences of the characteristics of nozzle-tube elements and free jets, and (4) problems which are of special importance for cases where the relative dimensions of the receiving orifice of the tube are so large (in connection with the small dimensions of the nozzle opening) that they cannot be considered negligibly small in comparison with the dimensions of the jet section.

Hydrodynamics, Hydraulics, and Hydrostatics

Belova, M. N.
THE THEORY OF PNEUMATIC WAVE DAMPING (K Voprosu o Teorii Pnevmaticheskogo Volnogasheniya). Apr 59 [5]p. 1 ref. TIL/T. 4932; M 556; [AD-215 819].
Order from LC or SLA mi$1.80, ph$1.80 59-22689

Trans. of Gidrotekh[nicheskoye] Stroit[el'stvo] (USSR) 1956 [v. 25] no. 5, p. 46-48.

The rising speed of air bubbles [from a pneumatic wave breaker] in the water is practically independent of excess pressure in the perforated tube when it changes from 0.8 to 3 kg/cm^2. The rising speed of air bubbles in the water from air outlets directed upwards exceeds in the beginning that from outlets directed downwards. At a distance of 3 to 4 m these speeds become equal. (The tube is at a depth of 6 m and with an air outlet diameter of 1 mm.) Speed of a group of rising air bubbles (projected on a vertical plane) at their movement from a depth of 5 or 6 m to 1 or 1.5 m at first decreases and then in the upper layers of the water increases. The experimental results obtained can be utilized to contrive a theory of pneumatic wave damping, though the results should be treated as preliminary since the conditions of motion of the air bubbles in unlimited water space are rather different from those in a vertical tube of large diameter. The investigation of the motion of air bubbles, and of the circulation of the water occuring in region of the bubbles should be pursued further disregarding all difficulties of preparing the experiments in approximately natural conditions. (Author's conclusions)

Kulikovskiy, A. G.
ON THE FLOW OF A CONDUCTING FLUID AROUND A MAGNETIZED BODY. [1959] 5p.
Order from MDF $2.50 MDF K-172

Trans. of A[kademiya] N[auk] SSSR. Doklady, 1957, v. 117, no. 2, p. 199-202.

Petersohn, E. G. M.
CONSIDERATION OF FLOW SEPARATION IN DETERMINING RESISTANCE BY MEANS OF MODEL TESTS (Berücksichtigung der Ablösung bei Widerstandsbestimmungen durch Modellversuche) tr. by E. N. Labouvie. June 59 [8]p. 6 refs. Trans. 278.
Order from LC or SLA mi$1.80, ph$1.80 59-18234

Trans. of Schiffstechnik (West Germany) 1957, v. 4, no. 20, p. 71-74.

Experiments were conducted to determine the manner in which the resistance caused by flow separation varies with Reynolds number, Re. Three different end pieces were tested in a wind tunnel. Two of these A and B, were paraboloids generated around the major axis with thickness ratios $1/d \approx 2$ and 4, respectively. The third, D, was half an ellipsoid with $1/d \approx 2$. The lengths of the cylindrical middle sections were 2d, 4d, and 6d respectively ($d = 25$ cm). For sections A and D the pressure distribution, and therefore the resistance caused by separation, was practically independent of the boundary-layer thickness. For section B the pressure distribution differed little from that for potential flow, which indicates that the form drag caused by the boundary-layer thickness decreases as Re increases. For section D, an unexpected pressure in front of the separation region was observed, which largely counteracted the separation resistance. The coefficients of resistance, referred to the cross-sectional area, were 0.016, 0.003, and -0.003, respectively, for models A, B, and D. The value of the coefficient, n, characteristic of boundary-layer profiles as contained in the equation $U/U_\infty = (y/\delta)^{1/n}$, was between 6 and 7 at the place of transition to the end sections: this corresponds to a turbulent boundary layer. In cases where the boundary layer was thickened by wire-mesh rings, the coefficient n was between 7 and 11. These results indicate that the form drag caused by separation (expressed in dimensionless form) is independent of Re.

Teplov, A. P.
THE SCIENTIFIC PRINCIPLES FOR THE USE OF PNEUMATIC BREAKWATERS. Dec 58 [26]p. 1 ref. TIL/T. 4854; M 521.
Order from LC or SLA mi$2.70, ph$4.80 59-22568

Trans. of mono. Nauchnyye Osnovy Primeneniya Pnevmaticheskikh Volnolomov (Thesis) Moscow, 1954

Contents:
Historical outline
The theory of wave-flattening by pneumatic breakwater
The hydraulic calculation of the air tubes of a pneumatic breakwater
The hydraulic calculation for the openings in a perforated tube
Instructions on designing pneumatic breakwaters

Wieghardt, K.
MEASUREMENTS IN THE FIELD OF FLOW ON TWO AFTERBODY MODELS (Messungen im Strömungsfeld an Zwei Hinterschiffsmodellen) tr. by E. N. Labouvie. Apr 59 [18]p. 6 refs. Trans. 277.
Order from LC or SLA mi$2.40, ph$3.30 59-14880

Trans. of Schiffstechnik (West Germany) 1957, v. 4, no. 20, p. 78-81.

Measurements in the field of flow around the afterbody carried out on two double models in a wind tunnel indicate that in the case of the extremely rounded form the flow proceeds in such fashion as was to be expected qualitatively. In the case of the model with rectangular frames, however, only in the vicinity of the bilge is the friction layer on the parallel middle body approximately the same as on the corresponding body of revolution while it is approximately four times as thick in the vicinity of the waterline or keel line. On the tapering afterbody, moreover, the transverse flow around the sharp bilge leads to the formation of strong longitudinal vortices in this case. (Author)

METALLURGY

SOVIET HIGH-TEMPERATURE METALLURGY: SELECTED TRANSLATIONS. 19 Oct 59, 19p. (14 figs. omitted) 9 refs. JPRS: 1947-N.
Order from OTS $1.75 59-13940

Contents:
1. New austenitic electrodes for welding 1Kh13N18V2B type steels, by A. V. Russiyan and M. Kh. Shorshorov. Trans. of *Svarochnoye Proizvodstvo (USSR) 1959, no. 6, p. 9-13.
2. Effect of small admixtures of alloying elements on the relaxation of stresses in iron-chromium-nickel alloys, by G. N. Kolesnikov, A. I. Moyseyev and M. V. Yakutovich. Trans. of [Akademiya Nauk SSSR]. Institut Fiziki Metallov [Sverdlovsk]. Trudy, 1958, no. 19, p. 95-100.

SOVIET METAL TECHNOLOGY, 1959, VOL. 2, NO. 4. A Quarterly Review of Soviet Technical Papers. Dec 59, 112p.
Order from PS $20.00, $60.00/year

Trans. of selected articles from Stal', Zavodskaya Laboratoriya, Tsvetnyye Metally and Koks i Khimiya.

Contents:
Investigating the sensitivity of ultrasonic inspection with the aid of inclined prismatic probes, by N. V. Khimchenko and V. N. Prikhodko
Ultrasonic methods of measuring the depths of strengthened layers, by N. M. Yegorov
A new method of investigating the influence of hydrogen on the mechanical properties of steel at high temperatures and pressures, by M. B. Asivyan
On methods of determining the productive capacities of open-hearth furnaces, by A. N. Morozov and M. M. Pischikov

The 15-ton industrial-experimental rotary steelmaking furnace, by S. D. Makayev, et al.
Mastering the production of tubes by means of atomic-hydrogen welding, by N. L. Klyamkin, et al.
Dust collection in pilot and industrial electric furnaces with hermetically sealed charging devices, by P. I. Voskresenekii, et al.
Shaft furnace smelting of agglomerate from oxidized nickel ores using a pre-heated blast, by I. D. Reznik, et al.
Some questions concerning obtaining titanium by molten media electrolysis using soluble anodes, by A. B. Suchkov, et al.
Mechanization of granulated slag smelting, by V. I. Borzenko
Some features of the technology of treating collective copper-zinc concentrates at the srednouralsk copper smelter, by V. A. Aglitskii et al.
The chlorination of titanium-containing slags, by I. M. Tselik and N. S. Ukshe
A preliminary test on the operation of large capacity coke ovens, by M. S. Komarovskii and S. F. Puntus
First test of the use of glass pipe lines in the coke and chemical industry, by G. K. Talayev

Al'ftan, E. A.
ULTRASONIC TREATMENT OF SOLID METALS AND ALLOYS FOR ACCELERATED DIFFUSIONAL AND DIFFUSIONLESS PROCESSES. Jan 60, 2600 words.
Order from HB $6.75 HB-4715

Trans. of Nauchn[yye] Doklady Vyssh[ey] Shkoly. Metal[lurgiya] (USSR) 1959, no. 1, p. 19-24.

Transformations in metals and alloys as affected by ultrasonic-wave parameters: self-diffusion in a homogeneous amorphous body of atoms of a single element, as example. Particulars on kinetics of transformation processes during one half-period of a vibration; importance of selecting specimen dimensions and shape, and ultrasonic treating method so as to permit the nautre of the elastic vibrations induced to be evaluated, and their frequency and the amplitude of the particle movement to be measured. Setup for induction of flexural natural vibrations in components, ensuring a very high energy conversion efficiency. Introduction of ultrasonic energy into metal parts with the vibrator being moved over them; wide applicability of principle; preconditions to be met. Arrangement for ultrasonic treatment of wire and strip by inducing longitudinal vibrations into stock being stretched between a transducer and an ultrasound absorber. Possibility of combining ultrasonic treatment with heat treatment. (HB abstract)

Bas, E. B., Epprecht, W. and Preuss, L.
INVESTIGATION BY THE ELECTRON EMISSION MICROSCOPE OF THE CARBURISATION OF MOLYBDENUM FROM THE GAS PHASE, tr. by N. Willis. Feb 59, 14p. (29 figs. omitted) 8 refs. NP-tr-240.
Order from LC or SLA mi$2.40, ph$3.80 59-18163

Trans. of Zeitschrift für Metallkunde (West Germany) 1957, v. 48, no. 9, p. 516-522.

With the aid of a two-stage electron emission microscope the carburisation of molybdenum from the gas phase has been studied. The molybdenum single crystal specimens with an emission surface of 1.4 mm diameter were either worked from small solid rods and annealed immediately below the melting point, or obtained by melting a molybdenum pellet on a tungsten support. The carburisation of the samples was achieved in the microscope with hydrocarbons (butane and benzene at pressures of 10^{-4} to 10^{-3} mm. The precipitation of carbon on to the heated molybdenum, the diffusion of carbon on and in the molybdenum, the crystallisation of molybdenum carbide from the carbon saturated molybdenum, and the different forms of the molybdenum carbide crystals in the molybdenum were all illustrated in a series of photographs. (Author)

Bochvar, A. A. and others.
EFFECT OF TEMPERATURE AND PRECEDING HEAT TREATMENT ON RUPTURE STRENGTH OF AN As-CAST AND WROUGHT [MAGNESIUM] ALLOY. Jan 60, 1900 words.
Order from HB $4.85 HB-4430

Trans. of [Metallovedeniye i Termicheskaya Obrabotka Metallov] (USSR) 1958, no. 11, p. 32-37.

Investigation into differences in response to heat treatment between as-cast and as-hot-worked conditions of a Mg alloy. Composition: 1.5% Mn, 0.5 Al, 0.3 Ca, balance Mg. Changes in rupture strength (a) with heating temperature and time and (b) with temperature of preceding heating. Microstructures obtained in the as-cast and hot-worked states after annealing at various temperatures. Effect of recrystallization on strength of hot worked alloy (a) if its first stages occur during rupture testing and (b) if recrystallization takes place earlier. Conclusions drawn. (HB abstract)

Chernov, N. N. and others.
AUTOMATIC CONTROL OF BLAST FURNACE, BASED ON STATIC PRESSURE DROP. Jan 60, 3900 words.
Order from HB $9.50 HB-4635

Trans. of Stal' (USSR) 1958, v. 18, no. 12, p. 1071-1077.

Failure of earlier automatic control apparatus for blast furnaces, based on total pressure drop. Development of a new apparatus based on partial static pressure drops between various higher levels. Self-recorded pressure drop charts. Arrangement for cleaning of sampling pipe and cooling element to ensure operational reliability of apparatus. Effect of various factors on pressure drops; charts for a smoothly working furnace; for hanging of stock in upper and lower furnace; pressure drop chart for overly full hearth. Effect of charging practice on upper pressure drop. Detailed description of entire new system of furnace operating control based on partial pressure drops; usefulness of autoregulator with poker attachment developed for B.F. practice. (HB abstract)

Plöckinger, E. and Wahlster, M.
CONTRIBUTION TO THE METALLURGY OF THE LD PROCESS. Jan 60, 1000 words.
Order from HB $2.60 HB-4729

Trans. of Berg- und Hüttenm[ännische] Monatshefte (Austria) 1959, v. 104, no. 10/11, p. 225-227.

Preliminary report on results of researches conducted at the LD pilot plant at Krupps, Essen, Germany. Composition of hot metal refined: 4% C, 1.5 Mn, 0.6 Si, 0.1 P, 0.05 S. Progress of reactions in heats cooled with ore + crushed limestone. Particulars on partition of Mn between metal and slag in LD furnace. Variation of oxygen content during refining of scrap-cooled heats. (HB abstract)

Schenck, H. and Unger, K-D.
CONTRIBUTION TO THE REDUCTION BEHAVIOUR OF SEVERAL OXIDES AND OXIDE COMPOUNDS AT THE FRACTIONATED HOT VACUUM EXTRACTION IN A CARBON CRUCIBLE. [1960].
Order from BISI 3 BISITS 1523

Trans. of Arch[iv fur das] Eisenhüt[tenwesen] (West Germany) 1959 [v. 30] Sep, p. 549-552.

Calculation of dissociation pressures of several oxides by hot extraction. Tests on the reduction behaviour of several oxides and combined oxides. Results of reduction test. Fractional hot extraction at two temperatures. (Contents List)

Sigov, A. A.
DISSOCIATION OF CALCIUM CARBONATE DURING SINTERING [OF IRON ORES]. Jan 60, 4600 words.
Order from HB $9.80 HB-4701

Trans. of Izv[estiya] V[ysshikh] U[chebnykh] Z[avedeniy]. Chern[aya] Metallurgiya (USSR) 1958, no. 3, p. 3-12.

Advantages of transferring limestone decomposition from blast furnace to sintering machine with respect to rapidity of $CaCO_3$ dissociation, interaction of carbon dioxide and carbon, and fuel consumption. Study of conditions favoring very rapid decomposition of limestone to obtain sinter as free from white inclusions as possible. Extent of decomposition of $CaCO_3$ determined by temperature measurements in a layer of sintering charge and by analysis of composition of combustion products. Particulars on the novel experimental technique. Evaluation of temperature diagrams obtained: exact stage where dissociation occurs; time required by it; temperature conditions with fluxed sinter as against unfluxed charges; reasons for difference. Correct explanation of fuel economies obtainable in fluxed sinter production (not through formation of low-melting calcium ferrites). Solution loss effect. Processes of adsorption and desorption. Relationship between amount of $CaCO_3$ in charge and volume of CO in combustion products. (HB abstract)

Trömel, G. and Fritze, H. W.
EQUILIBRIA BETWEEN IRON AND LIME-CONTAINING PHOSPHATE SLAGS. [1960].
Order from BISI £7 BISITS 1462

Trans. of Arch[iv für das] Eisenhüt[tenwesen] (West Germany) 1959 [v. 30] Aug, p. 461-472.

Test procedure at temperatures from 1550 to 1700°C. The equilibrium diagram of the slag system FeO_n-P_2O_5 - CaO. Influence of temperature on the phosphorus and oxygen contents in the iron. Composition of iron at 1600°C under different slags of the system FeO_n - P_2O_5 - CaO. General conclusions to be drawn from test results. Comparison with earlier work on the equilibrium of dephosphorisation. (Contents List)

Tsylev, L. M. and Sokolov, G. A.
MEASUREMENT OF MOLTEN SLAGS BY MEANS OF AN ELECTRONIC VISCOSIMETER (Izmereniye Vyazkosti Pasplavlennykh Shlakov pri Pomoshchi Electroviskozimetra). [1959] [7]p. 4 refs.
Order from LC or SLA mi$1.80, ph$1.80 59-22372

Trans. of [Akademiya Nauk SSSR]. Institut Metallurgii [Trudy] 1957, v. 1, p. 34-38.

The temperature dependence of the viscosity is plotted for three slags. The three slags had CaO/SiO_2 ratios of 1.8, 0.78, and 0.65.

Tseydler, A. A.
METALLURGY OF NICKEL. 27 Nov 59, 21p.
JPRS: L-1951-D.
Order from OTS $0.75 59-31048

Trans. of mono. Metallurgiya Medi i Nikelya, Moscow, 1958, p. 357-360 and 369-381.

The sections included in the present translation are devoted to the carbonyl process and the electrolytic refining of nickel.

Vöge, H. and Eichworth, E.
OBSERVATION OF THE STATE OF THE BATH AND SLAG DURING THE REFINING OF STEEL IN THE BASIC CONVERTER. [1960].
Order from BISI 4 10s. BISITS 1527

Trans. of Stahl u[nd] Eisen (West Germany) 1959 [v. 79] 12 Nov, p. 1715-1722.

The temperature of the bath in a converter was compared during 10 blows with the actual solidification temperatures of the metal and slag. With the exception of two hot blows, it was found that solid crystals were separated out during the blow in all the remaining melts. There exists a functional relation of the first separation of solid crystals and the silicon content, which sets in sooner at lower silicon contents in the iron. The level of the bath did not affect results. The investigation of the melting temperatures of the slag showed that from its initial formation the slag is present in solid form at a temperature of

about 150°C above that of the bath and becomes liquid only at the start of dephosphorisation i. e. at about 1500°C. (Author's summary)

Ferrous Metals

HIGH-ALLOY, STAINLESS AND HEAT-RESISTANT STEELS AND ALLOYS WITH HIGH OHMIC RESISTANCE. 20 Jan 59 [13]p. MERL Trans. no. 583; M 302.
Order from LC or SLA mi$2. 40, ph$3. 30 59-19161

Trans. of Russian Standard GOST 5632-51, gr. v. 30, introduced 4 Jan 51, approved 1 Mar 51, reissued with amendments June 56.

Babakov, A. A.
PROPERTIES AND CHEMICAL STABILITY OF STAINLESS STEELS IN VARIOUS AGGRESSIVE MEDIA. No. 8 of [series] Corrosion in Chemical Production Processes and Protective Methods. [1959] [153]p. 42 refs. F-TS-9477/V.
Order from LC or SLA mi$7. 50, ph$24. 30 59-19508

Trans. of mono. Nerzhaveyushchiye Stali Svoystva i Khimicheskaya Stoykost' v Razlichnykh Agressivnykh Sredakh, Moscow, 1956.

This book presents the major properties of stainless acid-resistant and scale-resistant steels: Various types of corrosive destruction of steel products in aggressive media are examined, as is the effect of heat treatment on the corrosion resistance of steels of various grades. Summary data on the welding of stainless and acid-resistant steels is presented, and an evaluation of their corrosion resistance in various aggressive media is given. The book is designed to meet the needs of the engineering and technical personnel of the chemical industry and related industries, the personnel of design bureaus, of draftsmen's colleges, and of persons engaged in production. (Author)

Davidenkov, N. N. and Belyayeva, E. I.
RESEARCHES ON SHOCK FATIGUE, tr. by L. T. Goodlet. Apr 59 [6]p. 2 refs. Trans. U81; M625.
Order from LC or SLA mi$1. 80, ph$1. 80 59-22624

Trans. of Metalloved[eniye i Termicheskaya Obrabotka Metallov] (USSR) 1958, no. 9, p. 12-16. Another translation is available from HB $2. 80 as HB-4349, Apr 59.

Esche, W. v. d. and Steinhauer, O.
STUDY OF THE BEHAVIOR OF IRON ORES DURING SINTERING, PT. II. Jan 60, 4100 words.
Order from HB $9. 75 HB-4725

Trans. of Archiv [für das] Eisenhüttenw[esen] (West Germany) 1959, v. 30, no. 4, p. 195-198.

Determination of softening point of iron ores during sintering by various methods: in boats; in crucibles, under high or low loads or without load. Testing setup. Studies of softening behavior in hot-stage microscope (hemispherical point in various atmospheres) Deviation of results of various softening point tests from the sinter-formation temperature. Advantages of hot-stage microscope procedure under industrial conditions. General Discussion- Wide applicability of the new test methods described by authors. Empirical nature of determination of sinter-formation temperature, based on structural changes induced by melting and precipitation reactions. Softening of ore being sintered vs. softening of sinter in blast furnace. Is there agreement between the degree of oxidation determined by chemical analysis of oxides, and crystallographic findings? (HB abstract) (See also HB 4697)

Gladkovskiy, V. A.
THE EFFECT OF HYDROSTATIC PRESSURE ON THE HARDNESS OF CARBON STEEL (O Vliyanii Gidrostaticheskogo Davleniya na Tverdost' Uglerodistoy Staly). [1959] [3]p. 3 refs. M580
Order from LC or SLA mi$1. 80, ph$1. 80 59-22667

Trans. of Fizika Metallov i Metallovedeniye (USSR) 1956, v. 3, no. 1, p. 183-184.

Tests showed that the hardness of carbon steel increases with pressure to a somewhat greater extent than would be expected on the basis of tensile tests on steels under pressure (Fiz. Metal. i Metalloved. 1: 563, 1955). Thus, the known relationship between the hardness of steel and its ultimate strength cannot be extended to the field of high pressures. (Author)

Gurevich, Yu. G.
HOW TO COUNTERACT THE EFFECT OF NITROGEN ON STEEL QUALITY. Jan 60, 1600 words.
Order from HB $4.25 HB-4619

Trans. of Izv[estiya] V[ysshikh] U[chebnykh] Z[avedeniy]. Chern[aya] Metall[urgiya] (USSR) 1958, no. 10, p. 31-35.

Study of possibility of eliminating the harmful effect of increased nitrogen and aluminum contents in steel, best observed on fractures of quenched specimens as light areas of a peculiar crystal structure, by creating conditions of crystallization in the ingots which make the formation of aluminum nitride impossible. Theory underlying the problem; temperature dependence of the standard free energy of formation of nitrides and equilibrium N and Ti, N and Al contents in steel at 1470 and 1600°C. Experimental procedure and results. Study of fractures of steel from heats to which 0.03% N was added, also 0.8% Al and a certain amount of titanium to prevent defective fractures. Importance of adding exactly the amount of titanium recommended to the heat in the furnace to obviate the formation of TiN. (HB abstract)

Inouye, K.
STUDIES ON THE HOT WORKING STRENGTH OF STEELS. II. HIGH TEMPERATURE DEFORMATION STRENGTH OF VARIOUS STEELS. [1960].
Order from BISI £8 BISITS 1430

Trans. of Tetsu to Hagane (Japan) 1955 [v. 41] June, p. 593-601.

Koike, Y.
HYDRODYNAMICS OF MOLTEN STEEL WHEN TEEMING, II. [1960].
Order from BISI £4 15s BISITS 1477

Trans. of Tetsu to Hagane (Japan) 1958 [v. 44] Mar, p. 260-262.

Results are given for the effects of length and shape of nozzle and of increase in diameter at the nozzle outlet on the "safety-limit of stopper lift", viz. the minimum lift where dropwise flow changes to laminar flow at constant head. (J. I. S. I. Abstract)

Maurer, Joseph.
INFLUENCE OF ADSORPTION OF GASES ON THE SURFACE TRANSFORMATION OF A MARTENSITIC STRUCTURE BY TEMPERING A HARDENED STEEL, tr. by L. B. P. 8 Sep 52, 3p. (4 figs. omitted).
Order from SLA mi$1.80, ph$1.80 60-10159

Trans. of [Académie des Sciences, Paris]. Comptes Rendus (France) 1952 [v. 234] no. 18, p. 1773-1775.

Petersen, W. and Wawroschek, S.
BRIQUETTING OF IRON ORES WITH THE USE OF BASIC FLUXES. Jan 60, 8100 words.
Order from HB $18.75 HB-4700

Trans. of Stahl und Eisen (West Germany) 1959, v. 79, no. 19, p. 1334-1344.

Briquetting of iron ores - once more an economical proposition. Methods of determining mechanical strength of ore briquets and behavior in blast furnace. Ore briquetting processes in current use or still to be tested: results of briquetting trials using sulfite liquor, cement, or bitumen as binders. Layout of modern plant for making flue dust + sulfite liquor briquets. Basic additives for a process giving briquets well able to stand up under transportation, storage, and in blast furnace, without requiring any pre- or post-treatment. New developments in briquetting presses: mold design; eccentric roll presses; extrusion presses. Proposed up-to-date ore briquetting process holding considerable promise; layout of plant. (HB abstract)

Sejnoha, R. and Smid, V.
THE USE OF CARBON STEEL FOR THE PRODUCTION OF HEAT-TREATED (QUENCHED AND TEMPERED) API-E BORING TUBES. [1960].
Order from BISI £4 10s BISITS 1505

Trans of Hutnicke Listy (Czechoslovakia) 1958 [v. 13] no. 10, p. 878-881.

Under normal hardening conditions the differences between the mechanical properties of the stamped end and the body of boring tubes are too great to be acceptable. These differences result from the difference in cross-section. Experiments were carried out on the hardening of tubes when moving them through a continuous furnace at rates of 0.7 to 1.2 m./minute. By chosing a suitable rate of motion through the furnace and appropriate use of the quenching spray, it was found possible to obtain approximately equal mechanical properties for the two parts of the tubes in steel containing 0.44% C, 0.80% Mn, 0.38% Si, 0.032% P, 0.021% S. (Translator's summary)

Trubitsyn, N. A. and Biduliya, P. N.
EFFECT OF STEEL COMPOSITION ON HOT TEARING IN CASTINGS. [1960].
Order from BISI £5 15s. BISITS 1538

Trans. of Lit[eynoye] P[roizvodstvo] (USSR) 1958, no. 6, p. 22-26.

Internal and external factors leading to the defect were examined with special reference to composition. Test heats of steels with 0.05 - 0.1% O, 0.1 - 0.2% Si, 0.2 - 0.3% Mn, 0.015% P and 0.03% S deoxidized in the ladle with Al were poured and shrinkage was measured by means of a special device. Fluidity tests tests were also carried out. The temperature and compositions favouring hot tears were observed. (J. I. S. I. abstract)

Yavoyskiy, V. I. and others.
DEGASSING OF STEEL IN LADLE AND MOLD WITH DIRECT ELECTRIC CURRENT. Jan 60, 5200 words.
Order from HB $12.60 HB-4626

Trans. of Proizvodstvo Obrabotka Stali Splavov. Sbornik (USSR) 1958, no. 38, p. 209-225.

Exploration of feasibility and advantages of degassing steel in ladles and molds with the use of direct current. Current densities employed. Degassing of basic open-hearth carbon and alloy steels in molds: Setup; mode of introduction and time of passage of d.c. Study of ingots poured with and without d.c. treatment for flakes, chemical heterogeneity, macrostructure; distribution and amount of hydrogen, nitrogen, and oxide and sulfide inclusions. Sampling and analysis procedures for hydrogen and other gases. Degassing of steel in ladle: Arrangement two methods of degassing. Results: Hydrogen content, oxygen, nitrogen. Advantages of degassing with d.c. expecially for large killed-steel ingots. Best method of using direct current for degassing of steel. (HB Abstract)

Nonferrous (except light) Metals

Discher, E. and Pawlek, F.
LEACHING OF SULPHIDIC ORES UNDER PRESSURE (Drucklaugung von Sulfidischen Erzen). [1959] 22p. (12 figs. omitted) 8 refs.
Order from LC or SLA mi$2.70, ph$4.80 59-18561

Trans. of Zeitschrift für Erzbergbau und Metallhüttenwesen (West Germany) 1957, v. 10, p. 158-166.

By building a pulsating magnetic stirrer into the autoclave, the processing technique of pressure decomposition was considerably improved, so that the pressure and temperature could be substantially lowered. We examined the following in pressure leaching: the pressure influence; temperature; grain size; reaction time; and the concentration in the aqueous solution. These tests were conducted on the pure natural sulphides of copper, nickel, zinc, iron, and lead, as well as on the following complex ores: Rammelsberg ore, Australian lead-zinc ore, Peruvian copper-zinc ore, and a South African nickel-copper concentrate. The tests showed that all sulphidic ores can be hydrolysed at a temperature between 140 and 180 C and at an oxygen pressure of 20; in these conditions, the mineralogical composition of the ores and their coalescence, is of slight importance. The presence of ferric sulphates in the ores is of great importance for pressure leaching in a natural medium. The ferric sulphate formed by the oxidation of the pyrite is subject to strong hydrolysis at a high temperature and in the presence of oxygen; in this process, sulphuric acid and ferric (111)-oxide are formed as hydrolysed products. The hydrolysis of ferric sulphate was thoroughly examined in relation to pressure, temperature, and concentration. The pressure decomposition of all the sulphidic ores was facilitated by the hydrolysis of the sulphric acids which were formed. Finally, the experiments and deliberations were made bearing in mind a possible kinetic reaction. (Author)

Holm, R. and Störmer, R.
DETERMINATION OF THE METALLIC CHARACTER OF PURE PLATINUM CONTACTS. [1959] 10p. (formulae, figs. omitted).
Order from SLA mi$1.80, ph$1.80 60-10760

Trans. of [Wissenschaftliche Veröffentlichungen aus den Siemens-Werken] (Germany) 1930, v. 9 [no. 2] p. 323-330.

Contact measurements on thoroughly cleaned Pt bars at pressures such that Brinnell impressions were made, gave an almost perfect conformity with the formula R = rho/2a, in which (a) represents the radius of the impression. We may conclude from the results of the measurements that thoroughly cleaned contacts under high pressures, as well as strongly preheated contacts, have a purely metallic conductivity (at least, up to 1%) and also that Ohm's law is obeyed up to current densities of 4.3×10^6 amperes/sq cm for Pt, with a precision of at least 1%. (Author)

Starik, I. E., Gavrilov, K. A. and others.
THE STATE OF MICRO-QUANTITIES OF RADIOELEMENTS IN SOLUTION, tr. by E. G. Peters. [1959] 13p. 27 refs. IGRL-T/R-80; M 320.
Order from LC or SLA mi$2.40, ph$3.30 59-19176

Trans. of [Zhurnal Neorganicheskoy Khimii] (USSR) 1957, v. 2, p. 1175-1182.

Zr^{95} at a concentration of 10^{-11} mole in nitric acid solutions of up to 4.2 pH is in the form of positive ions. At a pH of 4.2 dissolutions to $Zr(OH)_4$ begins, and a negatively charged colloid of zirconium hydroxide is formed. From a pH of 1 or 1.6 to 4.2, zirconium was significantly adsorbed on to negatively charged impurities fortuitously present in the solutions, and formed the so-called "radiocolloids". Experiments showed that zirconium adsorbed on impurities can be redistributed on to high-capacity adsorbents. The retention of Zr^{95} by paper filters during the filtration of microquantities of radioelements depends on adsorption. The method proposed by I. D. Kurbatov and M. Kurba'ova for determining the colloidal properties of radioelements by filtration through fine paper filters is in error. Adsorption experiments show that at a pH of less than 4.2 ion-exchange adsorption takes place, whereas at a pH of more than 4.2 zirconium is adsorbed in the form of colloidal particles. It is possible to separate Zr^{95} from Nb^{95} by the adsorption of the Nb^{95} on to porous glass filters from 10 N HNO_3.

Structural Metallurgy and Corrosion

Kishkin, S. T. and Nikolenko, V. V.
EFFECT OF THE SURROUNDING MEDIUM ON THE STRENGTH OF HEAT-RESISTANT STEELS (Zharoprochnost' i Vliyaniye Sredy) tr. by Franklin. May 59 [5]p. (3 figs. omitted) 11 refs. M508.
Order from LC or SLA mi$1.80, ph$1.80 59-22557

Trans. of Akad[emiya] Nauk SSSR. Dokl[ady] 1956, v. 110, no. 6, p. 1018-1021.

Data are reviewed on the effect of surface-active substances (e.g., comparatively low-melting-point metals and alloys in the liquid state) on the behaviour of polycrystalline solids under load. The suggestion is made that the frequently observed reduction in resistance to plastic deformation during contact with a liquid-metal medium is sometimes connected with the formation and growth of cracks and the higher real stresses arising from their concentration along the edges of the cracks. (See also 59-14305, 59-14992, 59-17321, 59-19087)

Osipov, K. A.
THE MECHANISM OF PLASTICITY IN HOMOGENEOUS METAL ALLOYS AT HIGH TEMPERATURES. May 52 [7]p. 8 refs. Trans. no. 441; T/L 860; M192.
Order from LC or SLA mi$1.80, ph$1.80 59-19086

Trans. of Akademiya Nauk SSSR. Otdeleniye Tekhnicheskikh Nauk. Izvestiya, 1949, no. 9, p. 1372-1377.

Tomashov, N. D. and Chernova, G. P.
INCREASE OF PASSIVE STATE STABILITY OF STAINLESS STEELS (Povysheniye Ustoychivosti Passivnogo Sostoyaniya Nerzhaveyushchikh Staley). 1959 [16]p. 10 refs. NRL Trans. no. 733.
Order from OTS $0.50 59-21041

Trans. of Vsesoyuznyye Soveshcheniye po Korrozii Metallov (no. 5) Moscow [1954] 1956. Trudy, p. 68-78.

An analysis of the machanism of corrosion and passivity shows the corrosion resistance of stainless steels (in media permitting the establishment of a passive state) can be increased by the addition of noble metals acting as effective microcathodes. Corrosion tests conducted on high grade chrome steels alloyed with various amounts of platinum, palladium, and copper in solutions of sulfuric, formic and oxalic acids demonstrated that when steel is alloyed with cathodic additives in an amount sufficient to effect passivation, its corrosion resistance is sharply increased. A detailed study of the anodic polarization curve of chrome-nickel stainless steel showed that this steel, after onset of anodic passivity, dissolves according to the strength of the anodic current applied (in the absence of oxygen liberation). However, the ability of the steel to retain its passive state under anodic polarization by small currents (several micro-amp/sq. cm) supplied by an external source, i.e., when weight losses caused anodic polarization of steel are insignificant, indicates the possibility of using this method for protecting stainless steels under stable passive state conditions, for example, in sulfuric acid solutions. A study of the behavior of chrome-nickel stainless steel in sulfuric acid solutions containing additions of noble metal ions (Pt, Pd, Ag, Cu) disclosed that when these ions are added in a concentration sufficient to effect steel passivation, the corrosion resistance of steel is sharply increased, and that the potential of steel is almost equal to the potential of the added ion (in case of Pt and Pd ions) or exceeds this potential (in case of Cu ions are added). The high resistance of stainless steel in sulfuric acid solutions in case noble metal ions are added in a concentration sufficient to cause steel passivation permits to assume that in certain cases these additives can be used to increase the corrosion resistance of steel in the capacity of unique metal-cathodic inhibitors.

Zhukov, A. M., Rabotnov, Y. N., and Churikov, F. S.
EXPERIMENTAL VERIFICATION OF CERTAIN THEORIES OF CREEP (Eksperimental'naya Proverka Nekotorykh Teoriy Polzuchesti) tr. by Sobdov. June 59, 6p. (9 figs omitted) 2 refs. M740.
Order from LC or SLA mi$1.80, ph$1.80 59-22607

Trans. of [Akademiya Nauk SSSR. Institut Mekhaniki]. Inz[henernyy] Sbornik, 1953, v. 17, p. 163-170.

NUCLEAR PHYSICS AND NUCLEAR CHEMISTRY

Gueronnier, E. and Henry, R.
PREPARATION OF $H_2SO_4^{35}$ AND OF CERTAIN OTHER SIMLE MINERAL COMPOUNDS LABELED WITH S^{35}, tr. by A. L. Monks. 12 June 59, 13p.
Order from LC or SLA mi$2.40, ph$3.30 AEC-tr-3721

Trans. of [Commissariat a l'] E[nergie] A[tomique]. Rapport] [158] no. 858.

Starik, I E.
THE STATES OF MICROQUANTITIES OF RADIOELEMENTS IN LIQUID AND SOLID PHASES (Sostoyanye Mikrokolichestv Radioelementov v Zhidkoy i Tverdoy Faze). Apr 58 [9]p. 40 refs. C, T. S. no. 446.
Order from LC or SLA mi$1.80, ph$1.80 59-22232

Trans. of Uspekhi Khimii (USSR) 1957, v. 26, no. 4, p. 389-398.

A survey

Voytovetsky, V. K. and Tolmacheva, N. S.
SCINTILLATING LITHIUM-SILICATE GLASSES FOR DETECTION OF SLOW NEUTRONS (Litiy-Silikatnye Stsintillyatsionnyye Stekla dlya Detektirovaniya Medlennykh Neytronov). 1959 [7]p. 3 refs. NRL Trans. no. 752.
Order from OTS $0.50 59-21205

Trans. of *Atomnaya Energiya (USSR) 1959, v. 6, no. 4, p 472-474.

$Li_2O \cdot 3SO_2$(Ce) glass was obtained by a previous method (Atomnaya Energ. 6: 321, 1959) at 1400°C in an inert environment. Its scintillation efficiency was higher than that of glass with 2 molecules of SiO_2. The addition of other glass-formers (phosphorus, boron) to the glass base did not lead to an increase in light output. For 0.2-cm-thick glass consisting of $Li_2O \cdot 3SiO_2 \cdot 0.08\ Al_2O_3$(Ce), the scintillation efficiency was increased to 3% relative to a NaI(Tl) crystal. The optimum concentration of cerium for glasses with 3 molecules of SiO_2 was changed from 0.01 to 1.015 CeO_2. An increase of the SiO_2 content, as already noted, leads to a deterioration of the transparency. At the same time the addition of aluminum oxide not only increases the light output, but also enhances the transparency.

Nuclear Engineering and Power

SUCCESS OF SOVIET UNION IN UTILIZATION OF ATOMIC ENERGY. [1959] [5]p. NP-tr-261.
Order from LC or SLA mi$1.80, ph$1.80 59-22057

Trans. from Sovetskaya Aviatsiya (USSR) 1958, no. 213, p. 4.

Inoue, K., Kuroyanagi, T., and Yajima S.
SEMI-HOMOGENOUS HIGH-TEMPERATURE GAS-COOLED BREEDER REACTORS. Oct 59, 86p.
Order from OTS $2.25 AEC-tr-3620

Trans. of unidentified mono. pub. by Japanese Atomic Energy Research Inst., Tokyo, 20ct 58.

Contents:
An outline of the nuclear reactor
Reactor physics
  Neutron multiplication rate and fuel inventry
  The transmutation of fuel
Reactor materials
  Fuel diffused in graphite
  Coolant gases
  Materials for canning the fuel
Fission products in graphite
  The free path of the fission products
  The diffusion of Xe^{135} and I^{133}
  The loss of xenon and iodine from graphite powder
Heat exchange and the power plant
  The thermal output and the size of the pile
  Fuel temperature and thermal stress
  The fuel elements and the structure of the pie
Reprocessing of fuel

Petrov, P. A.
NUCLEAR ENERGY PLANTS. [1959] [17]p. FTS-9926/V.
Order from LC or SLA mi$2.40, ph$3.30 59-9497

Trans. of mono. Yadernyye Energeticheskiye Ustanovki, Moscow, 1958, chap. 8, sect. 3-4, p. 208-216.

Data are reviewed on reactors cooled by liquid metals and by compressed gas. As examples of the first type, descriptions are presented of the 75-mv atomic power station, equipped with a sodium-graphite SGR reactor, under construction in Nebraska, and the 60-mv fast neutron breeder reactor being constructed in Daunree (sic), England. As examples of the second type, descriptions are presented of the 46-mv installation at Calder-Hall (sic), England, the air-cooled reactor in Windscale (sic), and the Soviet gas-cooled heavy-water power reactor operating on natural uranium.

Radioactivity

Glocker, R.
FUNDAMENTAL PROBLEMS OF X-RAY DOSIMETRY) (Grundfragen der Rontgenstrahlen-Dosimetrie) tr. by D. A. Sinclair. 1959, 19p. 16 refs. Technical Trans. 823.
Order from NRCC

Trans. of Fortschr[itte auf dem] Gebiete der Röntgenstrahlen u[nd der] Nuklearmed[izin] (West Germany) 1959, v. 90, no. 1, p. 101-109.

Three principal conditions of X-ray dosimetry can be distinguished depending on whether the measured reaction originates from the electrons produced within the measuring volume only, from the influx of secondary electrons produced in the surroundings (photo-, Compton-, pair-electrons) or from the combined effect of both groups of electrons. Any dose measurement may in principle be reduced to a determination of energy, even when the quantity immediately measured does not represent energy. From the result of the measurement the effective energy per unit mass is first derived for the substance in which the measurement is carried out. From this, using mathematical relationships, the energy is derived which is effective per mass of the substance of interest, i.e., the dose within this substance. The author proves that only two equations of this kind exist between the energy absorbed in the measuring body and that absorbed in the substance of interest; one pertains to the electronic equilibrium, the other to the Bragg-Gray principle. From these principles implications are derived for the possibility of basing the definition of dose units on ionization in air. (Author's summary)

Gol'danskiy, V. I. and Podgoretskiy, M. I.
THE MEASUREMENT OF THE LENGTHS OF INTERVALS BETWEEN THE ACTS OF RADIOACTIVE DECAY AS A POSSIBLE WAY FOR THE IDENTIFICATION OF NEW TRANS-URANIC ELEMENTS (Izmerenyye Dlitel'nosti Intervalov Mezhdu Aktami Radioaktivnogo Raspada, kak Vozmozhnyy Put Identifikatsii Novykh Transuranovykh Elementov) [1959] [12]p. (foreign text included). UCRL Trans 493, P-343.
Order from LC or SLA mi$2.40, ph$3.30 UCRL Trans-493

Trans. of *Zh[urnal] E[ksperimental'noy i] T[eoreticheskoy] F[iziki] (USSR) 1959, v. 37, no. 1(7), p. 315ff.

If during the irradiation of a target there appear radioactive nuclei A and B, then the study of lengths of intervals between the neighboring decay acts of B and B (τ_{BB}) or A and B (τ_{BB}) and the determination of average values of τ_{BB} and τ_{BB} allow one to establish whether or not at least a part of the observed nuclei of B is formed as a result of the decay of A. In this case $\overline{\tau}_{AB} < \overline{\tau}_{BB}$, while in the case when the nuclei of A and B are independent, $\overline{\tau}_{AB} \approx \overline{\tau}_{BB}$. Quantitative expressions are given which permit the use of the comparison between $\overline{\tau}_{BB}$ and $\overline{\tau}_{AB}$ for the identification of new trans-uranic elements. (Author)

Mössbauer, Rudolf, L.
NUCLEAR RESONANCE ABSORPTION OF GAMMA RADIATION IN Ir^{191}. [1959] 3p. 9 refs.
Order from LC or SLA mi$1.80, ph$1.80 AEC-tr-3684

Trans. of die Naturwissenschaften (Germany) [1958] v. 45, p. 538-539.

Research through raising the temperature movement of the emitted and absorbed atoms in Ir^{191}, showed that, contrary to classical expectations, a strong increase of nuclear resonance absorption takes place at low temperatures. With the aid of Lamb's theory (Phys. Rev. 55: 190, 1939) this is so interpreted that in the solid body the recoil impulse does not always lead to a change of the crystal lattice vibration state, but that, during one portion of the quanta transition, the crystal as a whole absorbs the recoil impulse. Commensurate with the emission and absorption spectra over a wide distribution, reflecting the thermal movement of the crystal lattice bound atoms, the theory yields remarkably strong lines with natural line width. Because of the vanished recoil energy loss, these lines appear unshifted in the place of the resonance energy (excitement energy of the investigated nuclear level). These unshifted resonance lines were proved by means of a "centrifuging" method at a velocities of several cm/sec. The line width of the 129 kev level in Ir^{191} was within the error limit, in agreement with the value of 6.5×10^{-6} ev, corresponding to a life time of 1.0×10^{-10} sec, that was found in the earlier measurements (Z. Physik 151: 124, 1958, a translation of which is available from LC or SLA as 59-18171) by a less direct method.

Vesely, V. and Napravnik, J.
MEASUREMENT OF VERY LOW ACTIVITIES IN WATER. [1959] [9]p. 6 refs. A. C. S. I. L. Trans. no. 1167.
Order from SLA mi$1.80, ph$1.80 60-10798

Trans. of Jaderna Energie (Czechoslovakia) 1957, v. 3, no. 12, p. 406-409.

A method of measuring very low beta and gamma radioactivities of the order of 10^{-7} uc/ml by the concentration of radioactive cations on the cation exchanger Staionit F extra has been studied. Radioactivity is indicated by an all-glass counter, placed in the axis of the ion exchanger column. Hardness of the water has no substantial effect on the measurements. It is necessary to employ solutions with a pH = 3 or 4. Any water not containing suspended matter can be used for the measurements. The minimum radioactivity measurable by the method for a hardness of less than 5° German is 2×10^{-7} μc/ml. (Author)

PERSONNEL SUPPLIES AND PERSONAL EQUIPMENT

Bartels, Carl.
RESPIRATORY MASK (Atemschutzhalbmaske). [1959] [7]p. F-TS-9733/V.
Order from LC or SLA mi$1.80, ph$1.80 59-19521

Trans. of German patent no. 727 907, class 61a, group 29_{10} B 189277 V 61a, patented in Germany since 7 Dec 39, pub. 15 Oct 42 by Bartels and Rieger, Cologne.

A mask is described which is made of rubber or rubberized material with a metal nose bridge and a supporting bar extending to the back of the head. The invention is unique in that the nose bridge turns on the two lowest engagement points of the supporting bands, and in that upper engagement points of the side bands are located approximately at the half level of the nose bridge. (Patent holder's claim)

Tret'yakov, L. I.
ANALYSIS OF THERMAL PROTECTION QUALITIES OF PADDED INSULATION (Izucheniye Teplozashchitnykh Svoystv Vatnykh Prokladok) tr. by Hadel. [1959] [12]p. 3 refs. H-3333.
Order from OTS $0.50 59-21178

Trans. of Izvestiya Vysshikh Uchebnykh Zavedeniy. Tekhnologiya Legkoy Promyshlennosti (USSR) 1958, Jan. p. 127-137.

For the study of the thermo-protective properties of quilted padding, it is expedient to employ a cylindrical bicalorimeter which is simple in construction and guarantees high accuracy and short testing time. The existence of the interdependence (linear) between the summary thermal resistance of the padding and the bulk weight of the cotton-wool layer presents the possibility of creation of padding with desired thermal resistance. Assisting in this is that, with fixed weight distribution of cotton wool per unit of area, the value of the bulk weight of the cotton-wool layer of the padding is determined only by the methods of manufacture. Quilted padding in air moving at speeds from 1 to 10 meters per second showed a sharp drop in the thermal resistance (up to 70-73%). The use of a special wind resistant covering for wadding permits this drop to be decreased considerably. This attests to the necessity of use of covering fabrics of given wind resistance in conjunction with the type of clothing and the climatic conditions of wear. (Author's conclusions)

PHYSICS

BULLETIN OF THE ACADEMY OF SCIENCES OF THE USSR. PHYSICAL SERIES, 1958, VOL. 22, NO. 12, pp. 1415-1552. 1959, 1v.
Order from CTT $20.00, $215.00/year

Trans. of Akademiya Nauk SSSR. Izvestiya. Seriya Fizicheskaya, 1958, v. 22, no. 12, p. 1422-[1537].

Malkiye, G. S. Sukhanov, B. I.
A PULSED HIGH-FREQUENCY ION SOURCE, tr. by L. J. Godlet. Mar 59 [5]p. 4 refs. Trans. U74; M485.
Order from LC or SLA mi$1.80, ph$1.80 59-22546

Trans. of *Pribory i Tekhnika Eksperimenta (USSR) 1958, no. 3, p. 100-101.
Another translation is available from LC or SLA mi$1.80, ph$1.80 as AEC-tr-3542, 19Jan 58, 8p.

Roy, N. A. and Frolov, D. P.
THE ELECTRO-ACOUSTIC EFFICIENCY OF A SPARK DISCHARGE IN WATER (Ob Elektroakusticheskom KPD Iskrovogo Razryada Vode) tr. by J. W. Palmer. Jan 59 [7]p. Library Trns. no. 795; M 376.
Order from LC or SLA mi$1.80, ph$1.80 59-22445

Trans. of Akademiya Nauk [SSSR]. Doklac, 1958, v. 118, no. 4, p. 683-686.

Experiments to measure the acoustic pressure waves generated by an electric spark discharge inwater, and thence to derive the energy efficiency of the discharge as an electromechanical transducer re described. The waveforms of voltage and current, and of acoustic pressure in various directions from the discharge, are described and illustrated. Observed acoustic pulse lengths compared approximately with those of the current pulses (4 to 6 microseconds). With triggered discharges from capacitance ranging between 0.1 and 1.5 microfarads and charged to between 10 and 30 kv, the highest energy transfer efficiency was found with the longer gap lengths and was approximately 30%.

Serbinov, A. N.
AN INVESTIGATION OF THE FOCUSSING ROPERTIES OF THE COLLECTOR SYSTEM IN A HIGH-FREQUENCY ION SOURCE, tr. by L. J. Godlet. Mar 59 [12]p. 9 refs. Trans. U73; M484.
Order from LC or SLA mi$2.40, ph$3.30 59-22545

Trans. of *Pribory i Tekhnika Eksperimenta (USSR) 1958, no. 3, p. 39-45.

An experimental investigation has been made of the influence of the geometrical proportions of the ion-collecting system in a high frequency ion source on the focussing of the beam in the canal of the collecting electrode. An optimum relationship between the geometrical dimensions has been established. An experimental check of three similar systems of optimum proportions with varying canal diameters has given the following results: with an applied power of about 130 watts on the discharge, and gas flow rates of the order of 4.0, 8.5 and 13.0 cm^3/hour, ion current intensities of 0.88, 0.95 and 1.35 milliamp respectively have been obtained. The concentration of atomic ions was about 80%. (Author)

Electricity and Magnetism

Buchholz, H.
ON ELECTRIC CURRENTS INDUCED BY THE GEOMAGNETIC FIELD IN MOVING RIVER WATER. Oct 59, 45p. 10 refs.
Order from SLA mi$3.30, ph$7.80 60-10996

Trans. of Archiv für Elektrotechnik (Germany) 1958, v. 44, no. 1, p. 12-31.

Metal conductors near rivers and canals are exposed to serious danger of corrosion because the geomagnetic field induces electric currents in moving water. Computations are made of the potential field of electric current which forms in the two series-connected conductors, water and earth, under the influence of the electric field force, which occurs by induction in the moving water. The cross section of the river bed is taken as half of an ellipse. The influence of the normal component B_y as well as that of the horizontal component B_x vertical to the axis of the river bed is studied. (The third component of induction remains without effect.) The deduction of the solution is generally according to the method of Green's function. The resulting electric field of flow originates from a double layer of linear electrodes which lie on the surface of the elliptic cylinder $\xi = a$.

Burdo, O. A.
RE CERTAIN LAWS OF MAGNETIC DISTURBANCE IN THE HIGH LATITUDES, tr. by E. R. Hope. Apr 59 [15]p. 7 refs. T 321 R.
Order from LC or SLA mi$2.40, ph$3.30 60-10107

Trans. of mono. Fizika Solnechnykh Korpuskulyarnykh Potokov i Ikh Vozdeystviye na Verkhnyuyu Atmosferu Zemli, Moscow, 1957, p. 159-166 and 174-177. (Conference Committee on Solar Research, 22 Nov 55. Transactions).

In the high latitudes, there are no persistent magnetic storm phenomena of any importance that are unrelated to the irregular fluctuations. In each individual case of magnetic disturbance, there develops a system of superficial horizontal currents extending over the whole polar cap and similar in form to the mean current system. There are three spiral bands in which the current density exhibits maximum values. The dynamo effect in the ionosphere seems the most likely cause of the magnetic disturbances. The dynamo theory provides a natural and simple explanation for the principal observed laws. (Author's conclusions) (See also 59-11569)

Karasev, V. V., Krotova, N. A., and Deryagin, B. V.
INVESTIGATION OF GASEOUS DISCHARGE DURING STRIPPING OF HIGH POLYMER FILM FROM SOLID BACKING. [1959] [11]p. 7 refs.
Order from LC or SLA mi$2.40, ph$3.30 60-10058

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1953, v. 89, no. 1, p. 109-112.

Various polymers were stripped from glass in a moderate vacuum (about 10^{-1} mm Hg) to determine the conditions (i.e., the rates and work of stripping) at which gaseous discharge (luminescence) occurs. The polymers included benzylcellulose, acetylcellulose, nitrocellulose, gutta percha, and polyvinyl chloride. For gutta percha a pressure of 10 mm of

Hg was most favorable to luminescence. Polyvinyl chloride films gave a sharp luminescence at 20 mm of Hg and at 10^{-1} mm, but at 10^{-3} mm the luminescence generally disappeared. Polyvinyl chloride and benzylcellulose gave the brightest luminescence (of green color). A considerably weaker light blue or gray color was seen with gutta percha and acetylcellulose. Generally no luminescence was observed at stripping rates lower than 10^{-2} cm/sec, although polyvinyl chloride gave sharply flashing sparklets every 2 to 4 sec at 10^{-5} cm/sec. At 10^{-2} to 10^{-1} cm/sec, luminescence (in the form of separate flashes) resembled a cloud or a fan for all polymers except gutta percha. With a further increase in velocity the individual flashes fuzed with each other, forming an unbroken shining band along the stripping boundary. At 10^{-2} to 10^{-1} cm/sec the stripping of several polymers occurred in individual sectors. Under a vacuum this process was accompanied by interrupted luminescence. In the air, at the same velocity, no luminescence was seen but the change in voltage had a quasi periodic character. Results confirm the electrical theory of adhesion. (See also 59-20133, 60-10036, 60-10059, 60-10163)

Karasev, V. V. and Krotova, N. A.
VELOCITY OF ELECTRONS EMITTED DURING STRIPPING OF FILM OF HIGH-POLYMER FROM SOLID BACKING, AND DISTRIBUTION OF EMITTING CENTERS. [1959] [10]p. (5 figs. omitted) 6 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-10059

Trans. of Akad[emiya] Nauk SSSR. Dokl[ady] 1954, v. 99, no. 5, p. 715-718.

The deflection of an electron cluster by a magnetic field was determined as cellulose ethers and synthetic rubbers were stripped from glass and gelatine in a modified apparatus for the study of emission (Akad. Nauk SSSR Doklady 88: 777, 1953). The deflection values were used in computations of the electron velocities, in centimeters per second, according to $V_0 = [(e/m)(Ha/Z)][1 + (a/2)]$, where e is the charge and m the electron mass, H the magnetic field (25 oersteds), a the length of the magnet (2 cm), l the distance between the magnet and the photo-disk (3.5 cm), and Z the deflection of the electron cluster measured according to the photo. Values of V_0 were used to determine average electron velocities, expressed in electovolts (sic), according to $U = V_0^2/(0.36 \times 10^{16})$. Values of U were 2.7×10^3 v for benzyl cellulose stripped from glass, 2.2×10^3 v for acetyl cellulose stripped from glass, and 10^4 v for synthetic butadiene rubber stripped from gelatine. These values are similar to approximations obtained from the penetration of shields of varying thickness. The most intense radiation occurred at the boundary of the stripping, the glass and gelatine backings did not radiate, and the polymer continued to radiate for 10 seconds or more although the intensity decreased with time. Emission was also observed from both inner surfaces during the splitting of mica. The theoretical value of adhesion, based on the electron velocity, was 9×10^4 erg/sq cm for the benzyl cellulose-glass system: the experimental value was 2×10^5 erg/sq cm. (See also 59-20133, 60-10036, 60-10058, 60-10163)

Kersten, Martin.
THE NIVAROX SPIRAL SPRING IN THE LIGHT OF THE PHYSICAL THEORY OF FERROMAGNETISM. [1959] 23p.
Order from MDF MDF K-175

Trans. of unidentified mono., Anniv. vol. for Dr. Reinhard Straumann.

Krotova, N. A. and Karasev, V. V.
INVESTIGATION OF ELECTRON EMISSION DURING SPLITTING OF SOLID BODIES IN A VACUUM. [1959] [10]p. (11 figs. omitted) 19 refs.
Order from LC or SLA mi$1.80, ph$1.80 60-10163

Trans. of Akad[emiya] Nauk SSSR. Dokl[ady] 1953, v. 92, no. 3, p. 607-610.

Experiments at 10^{-4} to 10^{-5}mm of Hg showed that electron velocities of about 10^4ev may arise during the rupture of a homogeneous body as a result of the division of opposed charges, if distributed in the form of a sign-changing mosaic. Electron velocities (computed according to the penetration of a shield of known thickness) were 120 kv for crystalline quartz, 30 to 40 kv for sugar, and 15 to 40 kv for mica. Fuzed quartz showed no electron emission during splitting. Results confirm the electrical theory of adhesion. (See also 60-10059)

Podliasky, I.
ON THE SKIN EFFECT IN A TRANSITORY SYSTEM. [1959] 34p. (foreign text included). IP-18; Note C. E. A. no. 211.
Order from LC or SLA mi$3.00, ph$6.30 AEC-tr-3694

Trans. of mono. Sur l'Effet de Peau en Régime Transitore, June 57.

The formation of current in a cylinder of high conductivity and large radius is analyzed by studying the behavior of peripheral layers near the area of separation of metal and insulation. The inductance during application of the electric field does not vary more than 10%, but resistance decreases by many orders.

Sauzade, M[ichel].
TRANSISTOR-STABILIZED SUPPLY FOR AN ELECTRO-MAGNET USED FOR STUDYING NUCLEAR RESONANCE. Nov 59, 4p. 1 ref.
Order from SLA mi$1.80, ph$1.80 60-14040

Trans. of Académie des Sciences, Paris. Comptes Rendus (France) 1959 [v. 248] no. 2, p. 205-207.

Shekalov, A. A, and Streis, Ya. I.
INVESTIGATION OF THE MECHANICAL AND MAGNETIC PROPERTIES OF Fe-Ni-Al ALLOYS FOR PERMANENT MAGNETS. [1959] [8]p. (12 figs. omitted). 4 refs. M571.
Order from LC or SLA mi$1.80, ph$1.80 59-22675

Trans. of [Metallovedeniye i Termicheskaya Obrabotka Metallov] (USSR) 1958 [no. 4] p. 29.

Experiments showed that Ni increases the strength of Fe-Ni-Al alloys, also their impact strength in the cast or quenched condition. With increasing Al the strength and impact strength are reduced. The introduction of up to 6% Cu lowers the bending and torsional strength but increases the impact strength. At higher Cu contents the properties alter in the reverse direction. Above 6% the torsional strength is practically unchanged. Variation of the Ni, Al and Cu content does not solve the problem of obtaining alloys with a good combination of magnetic and mechanical properties. To obtain maximum magnetic properties for alloys which have good mechanical properties it is necessary to heat to a high temperature and cool rapidly, which can lead to rejects and cracks. S increases the bending and torsional strength and sharply improves grinding properties of Fe-Ni-Al alloys. Impact strength has a maximum at 0.2 to 0.3% S. Magnetic properties are practically uninfluenced by additions up to 0.2%, but fall with greater additions. The most successful combination of magnetic and mechanical properties is given by alloys containing 0.2% S. S should be introduced to improve mechanical properties and grinding behavior. The addition of 0.5 to 1% Ti increases strength and impact strength of the alloy ANKo-4. With further increase the mechanical properties are lowered. Ti increases the coercive force, reduces the remanence and maximum energy. Addition of Ti should be used with alloys containing Co (ANKo-1 and ANKo-4) to obtain alloys with various combinations of coercivity and remanence. Addition of Li improves the strength, and also to a slight degree the magnetic properties of ANKo-4. Alloys with .05% Li have the best combination of magnetic and mechanical properties. The most reliable method of mechanical testing of magnetic Fe-Ni-Al alloys is by torsion which gives the least scatter of experimental results.

Tyablikov, S. V.
RETARDED AND ADVANCED GREEN'S FUNCTIONS IN THE THEORY OF FERROMAGNETISM. [1959] 8p. 8 refs.
Order from MDF $4.00 MDF T-140

Trans. of Ukr[ainskiy] Mate[maticheskiy] Zh[urnal] (USSR) 1959, v. 11, no. 3, p. 287-294.

A method is explained herein of computing the fundamental thermodynamic characteristics of ferromagnets by using retarded and advanced temperature Green's functions. Their use appears to be particularly convenient because of the possibility of analytic continuation into the complex plane. In a first approximation the Green's functions have a pole on the real axis from which the elementary excitation energy is determined. Taking the next approximation into account leads to the appearance of a slit instead of a pole, which, strictly speaking, makes the elementary excitation concept indeterminate. Results have been obtained for the magnetization by this method which are suitable for the whole temperature range. (Author)

Uspenskiy, V. A.
GEOMAGNETIC PROBLEMS AND THE INTERNAL STRUCTURE OF THE EARTH, tr. by E. R. Hope. Sep 59 [4]p. 2 refs. T 331 R; [C-3203].
Order from LC or SLA mi$1.80, ph$1.80 59-22217

Trans. of [Akademiya Nauk SSSR. Geofizicheskiy Institut. Trudy, 1955] no. 26(153) p. 208-210.

An extract is presented of an address at the December 1952 Session of Scientific Council of Geophysical Institute, Academy of Sciences of the USSR. The purpose of the address was to emphasize that no model of the earth's internal structure may be set up without taking into account the data of terrestrial magnetism. In this sphere of knowledge there is already such an accumulation of facts that any theory which ignores them thereby automatically places itself under attack.

Vilim, Frantisek.
A NEW METHOD FOR MEASURING THE SUSCEPTIBILITY OF PARAMAGNETIC AND DIAMAGNETIC SUBSTANCES. [1959] 7p.
Order from MDF $4.00 MDF V-132

Trans. of [Chekhoslovatskii Fizicheskii Zhurnal] 1956, v. 6, no. 1, p. 84-90.

Vonsovskiy, S. V. and Sokolov, A. V.
MAGNETO-OPTICAL PHENOMENA IN FERROMAGNETICS (O Magneto-opticheskikh Yavleniyakh v Ferromagnetikakh). 19 June 59 [8]p. (21 formulae omitted) 16 refs. M-V. Trans. no. 2645; M 786.
Order from LC or SLA mi$1.80, ph$1.80 59-22605

Trans. of [Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki] (USSR) 1949, v. 19, no. 8, p. 703-708. Another translation is available from LC or SLA mi$2.40, ph$3.30 as 59-17155 [1959] 13p.

A general quantum-mechanical explanation of the magneto-optical phenomena in ferromagnetic materials is discussed with an indication of a programme of experimental investigation for these phenomena.

Bellyustin, S. V.
THEORY OF CURRENT IN A VACUUM. III. CASE OF SPHERICAL ELECTRODES. [1959] 12p. 7 refs.
Order from LC or SLA mi$2.40, ph$3.30 AEC-tr-3762

Trans. of [Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki] (USSR) 1939, v. 9, p. 857-863.

This article contains a theoretical investigation of the motion of electrons in an electrostatic field between two concentric spheres, a more general case, where the electrons possess identical initial radial velocities and the initial field may have any value is considered, in contrast to Langmuir (Phys. Rev. 24: 49, 1924), who considered the initial velocity of the electrons and the initial field both equal to zero. The qualitative nature of the solution is ascertained and analytical expressions are obtained that make it possible to calculate the potential distribution, the field, the space charge, the electron transit time,

and the static characteristic. The special result of calculating the static characteristic is pointed out. (Author) (See also 59-22051, 59-22068)

Bellyustin, S. V.
THEORY OF CURRENT IN A VACUUM. III. CASE OF SPHERICAL ELECTRODES: SUPPLEMENTS. [1959] 9p. 4 refs.
Order from LC or SLA mi$1.80, ph$1.80
AEC-tr-3762, suppl.

Trans. of [Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki] (USSR) 1943, v. 13, p. 238-242.

The stationary motion of electrons between concentric spheres is considered when a general radial initial velocity is present. Some properties of the solution are set forth, the regimes are classified, and the apparent capacitance is investigated. (Author) (See also 59-22067)

Glazanov, V. N.
BREAKDOWN IN VACUUM. 30 Oct 58 [11]p. 26 refs. M535.
Order from LC or SLA mi$2.40, ph$3.30 59-22708

Trans. of *Elektrichestvo (USSR) 1958, no. 3, p. 40-44.

In the static vacuum, 10^{-7} to 10^{-8} millimeters of mercury or less, for a given form of conditioned elastrodes, breakdown in vacuum is determined by the increase of the emission current according to the Fowler-Nordheim equation. The breakdown thus depends on the magnitude of the gradient at the cathode, and the critical value of the gradient is 5×10^7 volts per centimeter. With nonconditioned electrodes the course of the discharge follows the theory of Semenov and Arnal. The beginning of the discharge is determined by the emission of electrons from the cathode. This emission obeys the Schottky formula with a value of the work function which is less than the theoretical value and a field form coefficient of 3 to 5. In what follows the development of the breakdown is determined by the magnitude of the applied voltage. The magnitude of the mean breakdown gradient is 3×10^6 to 3×10^5 volts per centimeter, depending on the distance between the electrodes, (Author's conclusions)

Grinberg, G. A. and Bonshtedt, B. E.
PRINCIPLES OF THE EXACT THEORY OF THE WAVE FIELD OF A TRANSMISSION LINE. [1959] 40p.
Order from MDF $20.00 MDF G-149

Trans. of Zh[urnal] Tekh[nicheskoy] Fiz[iki] (USSR) 1954, v. 24, no. 1, p. 67-95.
Another translation is available from SLA as RT-3085 [40p].

Mayorov, A. V.
ON THE APPLICATION OF A QUANTITATIVE ESTIMATE OF OPERATIONAL RELIABILITY OF DEVICES IN AUTOMATIC SYSTEMS. 18 Nov 59, 5p. 2 refs. JPRS: 2008-N.
Order from OTS $0.50 60-11056

Trans. of Akademiya Nauk SSSR. O[tdeleniye] T[ekhnicheskikh Nauk]. Izvestiya: Energetika i Avtomatika, 1959, no. 3, p. 181-182.

Podliasky, I.
WEAK AND STRONG DISCHARGE SYSTEMS IN GASES. [1959] 26p. (foreign text included). IP-17; Note C.E.A. no. 210.
Order from LC or SLA mi$2.70, ph$4.80 AEC-tr-3695

Trans. of mono. Regimes Faible et Fort d'une Décharge dans les Gaz, June 57.

In the case where the column contains only electrons, the coulomb action dominates and, instead of contracting, the column will be in a state of centrifugal expansion. The presence of a certain number of positive ions is absolutely necessary to provoke stricture in order to partially compensate the coulomb effect. (Author)

Recknagel, A.
THEORY OF THE ELECTRON MOVEMENT IN A DEFLECTION CONDENSER, tr. by A. W. Dec 59, 26p. 6 refs.
Order from SLA mi$2.70, ph$4.80 60-14077

Trans. of Zeitschrift für Physik (West Germany) 1938, v. 111 [no. 1/2] p. 61-78.

The electron mobility in the deflection condenser is investigated mathematically. To a first approximation the deflection depends linearly on the deflection voltage. For higher voltages additional deflections and focusing phenomena occur which are determined as small "errors" of the condenser through a perturbation calculation. (Author)

Molecular Physics and Spectroscopy

Alentsev, M.
DEPENDENCE OF THE FLUORESCENCE YIELD OF IODINE VAPOR ON THE WAVELENGTH OF THE EXCITING LIGHT. [1959] 7p. 3 refs.
Order from LC or SLA mi$1.80, ph$1.80
UCRL Trans-489

Trans. of Akademiya Nauk SSSR. Doklady, 1948, v. 62, p. 607-609.

The yield fell slightly with increasing exciting wavelength. The drop in the yield curve on the side of the shorter wavelengths is caused by the fact that due to the comparatively wide interval of wavelength passed by the monochromator, the portion of the exciting light having wavelengths < 500 mμ falls in the region of continuous absorption, adjacent to the banded absorption spectrum in iodine vapor corresponding to the photodissociation of the iodine molecule.

Bobovich, Ya. S. and Gurevich, D. B.
THE APPLICATION OF A PHOTOELECTRIC RECORDING METHOD TO MOLECULAR ANALYSIS BY RAMAN SPECTRA, tr. by R. E. Daisley. [1959] [37]p. 28 refs. Trans. no. 1024; M 352.
Order from LC or SLA mi$3.00, ph$6.30 59-22421

Trans. of Zhurnal Eksperimental'noy i Teoreticheskoy Fiziki (USSR) 1954, v. 27, no. 9, p. 318-332.

An apparatus is described for the photoelectric recording of weak spectra in the visible range. Results are given of thorough tests of the apparatus, and some examples of its application to the analysis of hydrocarbon mixtures and to the quantitative measurement of depolarization ratios of Raman spectral lines are illustrated.

Kalinin, D. K., Marzuvanov, V. L., and Fayn, E. Ye.
SPECTRUM ANALYSIS OF SOME ELEMENTS IN A CARBON DIOXIDE ATMOSPHERE (Spektral'nyy Analiz Nekotorykh Elementov v Atmosfere Uglekislogo Gaza). [1959] [16]p. 5 refs.
Order from LC or SLA mi$2.40, ph$3.30 59-22381

Trans. of Akademiya Nauk Kazakhskoy SSR, Alma-Ata. Vestnik [1956] v. 12, p. 61-69.

The present work investigates the characteristics of arc discharge in a carbon dioxide atmosphere. The possibility of conducting spectrum analyses of ores and minerals in a CO_2 atmosphere has also been considered. (Author)

Knauer, F. and Stern, O.
ON THE REFLECTION OF MOLECULAR BEAMS (Über die Reflexion von Molekularstrahlen) tr. by Mary L. Mahler. Oct 58 [18]p. 5 refs. CC-L-425.
Order from LC or SLA mi$2.40, ph$3.30 59-16781

Trans. of Zeitschrift für Physik (Germany) 1929, v. 53, p. 779-791.

The results of some experiments made to verify the De Broglie postulate of quantum theory are presented. The experiments deal with the reflection of atomic beams from surfaces. (NASA abstract)

Narbutt, K. I.
THE PRESENT STATE OF X-RAY SPECTROSCOPIC ANALYSIS, tr. by R. E. Daisley. [1959] 25p. 89 refs. Trans. no. 1028; M 531.
Order from LC or SLA mi$2.70, ph$4.80 59-22711

Trans. of *Zavodskaya Laboratoriya (USSR) 1958 [v. 24] no. 5, p. 604-613.

Sheremet'yev, G. D.
OPTICAL PROPERTIES OF URANIUM HEXAFLUORIDE. I. ABSORPTION SPECTRA IN THE VISIBLE AND NEIGHBORING ULTRAVIOLET REGION. 15 July 59, 13p. 14 refs. Trans. no. 1349.
Order from LC or SLA mi$2.40, ph$3.30 GAT-Z-4077

Trans. of Optika i Spektroskopiya (USSR) 1956 [v. 1] no. 1, p. 181-189.

A laboratory method for purifying uranium hexafluoride from volatile impurities is described that gives transparent crystals of this compound. The electron oscillatory structure of the 4070- to 3470-A stripe in the absorption spectrum of the vaporous UF_6 was found to possess 15 separate groups of narrow stripes. At room temperature and at 88°K the absorption spectrum of solid UF_6 has an electron oscillatory structure in the visible and ultraviolet region very similar to that of the vaporous UF_6. In the absorption spectrum of the fused UF_6 (353°K) the thin structure was not found.

Tal'roze, V. L.
ON CHARGE TRANSFER AS A METHOD OF OBTAINING "SINGLE PEAK" MASS SPECTRA, tr. by R. E. Daisley. [1959] [6]p. 8 refs. Trans. 1011; M 341.
Order from LC or SLA mi$1.80, ph$1.80 59-22411

Trans. of Pribory i Tekhnika Eksperimenta (USSR) 1957, no. 5, p. 116-117.

Optics

Davydov, A. S.
THEORY OF ABSORPTION, DISPERSION AND SCATTERING OF LIGHT BY SOLUTIONS, tr. by R. E. Daisley. [1959] [15]p. 3 refs. Trans. no. 1022; M 350.
Order from LC or SLA mi$2.40, ph$3.30 59-22419

Trans. of Akademiya Nauk SSSR. Izvestiya. Seriya Fizicheskaya, 1953, v. 17, no. 5, p. 523-530.

A lecture (and the following discussion) is presented which describes an investigation of the effect of the solvent on the absorption, dispersion and scattering spectra of light.

Guinier, A[ndré] and Fournet, G[erard].
THE USE OF A DOUBLE MONOCHROMATOR FOR THE STUDY OF THE SCATTERING OF X-RAYS AT VERY SMALL ANGLES. [1959] 2p. (2 figs. omitted).
Order from SLA mi$1.80, ph$1.80 60-10767

Trans. of [Académie de Sciences, Paris]. Compt[es] Rend[us] (France) 1948, v. 226, p. 656-[659].

Solid State Physics

Anselm, A. I.
CONCERNING THE STATE OF THE THEORY OF SEMI-CONDUCTORS (K Voprosu o Sostoyanii Teorii

Poluprovodnikov). Apr 58 [8]p. 13 refs. C. T. S. no. 388.
Order from LC or SLA mi$1.80, ph$1.80 59-22233

Trans. of Uspekhi Fizicheskikh Nauk (USSR) 1956, v. 60, no. 2, p. 179-189.

Discussions are presented on (1) why the investigation of semi-conductors plays such an important part in the study of solids; (2) which of the propositions and results of the theory of semi-conductors are sufficiently well founded, and (3) what tasks the theory of semi-conductors places before the experimenter.

Bayer, H.
ON THE THEORY OF SPIN-LATTICE RELAXATION IN MOLECULAR CRYSTALS. Nov 59 [22]p. 6 refs.
Order from SLA mi$2.70, ph$4.80 60-14004

Trans. of Zeitschrift für Physik (West Germany) 1951 1951, v. 130, no. 2, p. 227-238.

Molecular crystals with quadrupole coupling are considered. An interpretation is presented of the measurements of H. D. Dehmelt and H. Druger (Naturwissenschaften 37: 111, 1950, and Z. Physik 129: 401, 1951), who found ν_Q $(35.480 \pm 0.003) 10^6 s^{-1}$ for the Cl^{35} nucleus in the dichloroethylene (CHCl=CHCl) molecule at 83°K, and an increase, $\Delta \nu_Q = (60 \pm 5) 10^3 s^{-1}$, in the transition frequency for a temperature drop of 24±2°K. This slight temperature dependence is explained by considering the molecules in the lattice as quantum mechanical harmonic oscillators performing torsional oscillations, the amplitude of which is temperature dependent. The short spin-lattice relaxation times are explained by the energetic coupling of the quadrupole nucleus with the remaining molecule across the electrical field gradient of the homopolar bonding electrons, and by considering the desntiy of the Fourier spectrum of molecular movement in the range of quadrupole resonance frequency. A molecular torsional frequency, $\nu_t = 1.5 \times 10^{12} s^{-1}$, was derived from the characteristic temperature: this value is in good agreement with values determined by Raman measurements for other crystalline substances.

Faydysh, A. N. and Zima, V. L.
INFLUENCE OF CONCENTRATION OF THE ADMIXTURE ON THE QUANTUM YIELD OF LUMINESCENCE DEPENDENT ON THE THICKNESS OF ANTHRACENE CRYSTALS [Vliyaniye Kontsentratsii Primesi na Zavisimost' Kvantovykh Vykhodov Iyuminestsentsii ot Tolshchiny Kristallov Antratsena] tr. by Lydia Venters. July 59 [8]p. 3 refs.
Order from LC or SLA mi$1.80, ph$1.80 AEC-tr-3778

Trans. of *Optika i Spektroskopiya (USSR) 1959, v. 6 [no. 1] p. 98-101.

The concentrations of naphthacene in the samples studied were 3×10^{-6}, 8×10^{-6}, 3×10^{-5}, and 1×10^{-4} mole/mole. The quantum yields of luminescence were measured in a photoelectric apparatus by heterochromatic (photographic) photometry. After switching from thick films to thin ones ($d \approx 1\mu$), the quantum yield of anthracene increased by about 10% and 40%, respectively, at concentrations of 10^{-6} and 10^{-4} mole/mole. A decrease in the thickness from 40μ to 1μ was accompanied by an 80 or 90% change in B_n at concentrations of 3×10^{-6} mole/mole, and by a 10% change at the high concentration (10^{-4} mole/mole). In switching from 1μ to 0.2μ films the B_n/B_a ratio increased about 2.5 times at the high concentration and about 3.2 times at the low concentration. When the film thickness was decreased below 0.3μ, the B_n/B_a ratio changed substantially. At the 10^{-4} concentration an increase in the thickness of crystals from 30μ or 40μ to tenth fractions of millimeters lead to an increase in the B_n/B_a ratio by 20% more.

Gorbunov, N. I. and Tsyurupa, I. G.
THE MINIMUM QUANTITIES, DETECTABLE FROM X-RAY DIFFRACTION PATTERNS, OF CRYSTALLINE SUBSTANCES IN MIXTURES WITH AMORPHOUS SUBSTANCES (Minimal'noye Kolichestvo Kristallicheskikh Veshchestv, Dostupnoye Opredeleniyu Rentgenograficheskim Metodom v Smesi s Amorfuimi Veshchestvami) tr. by K. P. R. Ehrenberg. Feb 59 [5]p. Library Communication no. 381; M 234.
Order from LC or SLA mi$1.80, ph$1.80 59-19125

Trans. of [Akademiya Nauk SSSR. Doklady] 1949, v. 65, no. 1, p. 81-84.

The minimum quantities of crystalline minerals detectable by the X-ray method differ. The most easily determined is quartz. Gypsum and calcite range next to quartz, then follow kaolinite, muscovite and montmorillonite. This order of the crystalline substances is independent of the kind of amorphous substance, the latter alters only the absolute amount of the crystalline substance that can be determined. Amorphous substances give a distinct background by blackening the X-ray film. The intensity of this blackening is a criterion that divides the amorphous substances we examined into two groups. The first group comprises humic acid and amorphous silica, both producing only a faint background, the second type, ferrous hydroxide, effects a very intensive background. The smallest possible quantity of quartz still detectable by X-ray analysis (2%) is determined in a mix with humic acid, while with ferrous hydroxide the minimum value is 6%. The corresponding values are 2 and 20% for kaolinite, 5 and 25% for montmorillonite. As even a high percentage of humic acid in mixture with crystalline minerals does not effect a marked blackening of the film owing to the lightness and loose packing of the atoms composing it, it is unnecessary to remove it as it is often done prior to taking X-ray graphs of soil colloids. Ferrous hydroxide hinders the determination of crystalline substances when its percentage is very high (above 20%). The minimum detectable quantity is somewhat higher for ternary mixtures than for such of two components, for instance in the case of montmorillonite and quartz with an amorphous matter (humic acid or silica), or one of the latter with kaolinite and quartz. (Extracted from the report)

Grechushnikov, B. N. and Brodovskiy, D.
THERMAL STRESSES IN CUBIC CRYSTALS (Temperaturnyye Napryazheniya v Kubicheskikh

Kristallakh) tr. by M. Slade. [1959] 4p. (foreign text included) 7 refs. Trans. no. 3780.
Order from LC or SLA mi$1.80, ph$1.80 59-19607

Trans. of Kristallografiya (USSR) 1956, v. 1, no. 5, p. 597-599.

The solution is discussed for the simplest particular case. Consideration is given to the plane problem of the theory of elasticity, and to the temperature terms. In this case the components of the displacement vector u, v, and w are determined only by the two variables x and y.

Joffe, A.
THERMOELECTRIC AND THERMAL PROPERTIES OF SEMICONDUCTORS. [1959] [10]p. A. C. S. I. L. Trans. no. 1027.
Order from SLA mi$1.80, ph$1.80 60-10095

Trans. of le Journal de Physique et le Radium (France) 1957, v. 18, no. 4, p. 209-213.

Ludwig, W.
THE INFLUENCE OF ANHARMONICITY ON THE PROPERTIES OF CRYSTALS (Über den Einfluss der Anharmonozitat auf die Eigenschaften der Kristalle) tr. by D. A. Sinclair. 1959, 49p. 29 refs. Technical Trans. 831.
Order from NRCC NRCC C-3174

Trans. of Phys[ics] and Chem[istry of] Solids (U. S.) 1958, v. 4, no. 4, p. 283-305.

Patek, K[arel].
A NEW TYPE OF LUMINESCENT "τ-METER". Dec 59, 5p. 8 refs.
Order from SLA mi$1.80, ph$1.80 60-14074

Trans. of [Chekhoslovatskii Fizicheskii Zhurnal] 1957, v. 7, no. 6, p. 744-747.

A simple method of logarithmic recording is applied to the analysis of long-duration (of the order of minutes and hours) decay of luminescent substances. The method employs the characteristic dependence of the photomultiplier amplification on the dynode voltage.

Patek, K.
ON THE PHOTOELECTROLUMINESCENCE OF ZnS-Cu, tr. by L. Rosler. 13 Oct 59, 3p.
Order from SLA mi$1.80, ph$1.80 60-14022

Trans. of Chekhoslovatskii Fizicheskii Zhurnal, 1958, v. 8, p. 612.

An unequal increase in brightness was discovered during the voltage cycle. Under UV irradiation there occurs firstly an increase in the integrated light brightness (photoluminescence) and secondly an increase in the light brightness of the primary maximum of electroluminescence and the gradual disappearance of the secondary maximum. The zero level of brightness, L_0, increases proportionally to the illumination intensity, I. The increase of brightness of the primary maximum, ΔB_1, as a function of the illumination, has a double variation: for low frequencies B_1 first grows proportionally to $\sqrt{I}$, then (for a definite $I = I_{0'}$) attains saturation; for high frequencies this saturation is not observed. The amplitude decrease of the secondary maximum is almost exponential with I. The value $I_{0''}$ at which the amplitude of the secondary maximum $(1 - \Delta B_2)$ is reduced to 1/e is an order of magnitude smaller than $I_{0'}$ for the same frequency. Under UV illumination the curve begins to lead in phase: the phase angle grows with the decreasing amplitude of ΔB_2, and after its disappearance remains constant. The processes are completely analogous for the 460 and 520 mμ luminescence bands. Results suggest an increase in the number of conduction electrons under the influence of UV illumination, which lessens the polarization effect in the ZnS crystals, and increases the number of electrons accelerated by the electric field.

Petrov, D. A. and Zemskov, V. S.
APPARATUS AND METHODS FOR GROWING SEMICONDUCTOR CRYSTALS. Paper presented at Conference on Crystal Growth, 1956. [1959] [15]p. 10 refs. A. C. S. I. L. Trans. no. 1098.
Order from SLA mi$2.40, ph$3.30 60-10797

Trans. of unidentified mono., p. 262-272.

Theoretical Physics

Biermann, Ludwig and Schluter, Arnulf.
THE WORK AT GÖTTINGEN ON CONTROLLED THERMONUCLEAR FUSION (Uber die Gottinger Arbeiten sur Kontrollierten Thermonuklearen Fusion) tr. by S. Reiss. [1959] [15]p. N-64667.
Order from LC or SLA mi$2.40, ph$3.30 59-16785

Trans. of Max-Planck Gessellschaft zur Förderung der Wissenschaften. Mitteilungen (West Germany) 1957, no. 3, p. 143-163.

The solution of two fundamental problems is discussed: (1) How to attain a gas temperature of 100 million degrees, and (2) how to confine a gas at this extremely high temperature. These problems are believed solvable if the special properties, particularly electromagnetic behavior, of gases at these high temperatures are considered. The first problem is discussed from the standpoint of heating the plasma from 100,000° to 100,000,000°. In the second problem, two magnetic field arrangements are considered, whereby a highly heated plasma can be surrounded by magnetic field lines to form a fusion reactor. (NASA abstract)

Bogolyubov, N. N. and Gurov, K. P.
KINETIC EQUATIONS IN QUANTUM MECHANICS. [1959] 6p. 3 refs.
Order from MDF $8.50 MDF B-150

Trans. of Zh[urnal] Eksp[erimental'noy i] Teor[eticheskoy] Fiz[iki] (USSR) [1947] v. 17, no. 7, p. 614-628.

The present paper is devoted to a derivation of the kinetic equations in quantum mechanics. The problem is solved for a system of particles subject to Bose statistics and interacting according to a central force law, where it is assumed that the interaction potential energy of a pair of particles is small in comparison with their average kinetic energies. On the basis of this latter approximation, a smallness parameter of perturbation theory is introduced. A certain modification of the perturbation theory method ordinarily used affords the possibility of formulating the kinetic equation to second approximation accuracy, which is an additional correction to the standard scheme of taking into account pairwise collisions. (Author)

Consoli, T.
MICROWAVE CONFINEMENT OF A PLASMA IN A SPHERICAL WALLED CAVITY. [1959] 14p. (foreign text included) 1 ref. CEN. S. PA 7771.
Order from LC or SLA mi$2.40, ph$3.30 AEC-tr-3698

Trans. of mono. Confinement par Micro Ondes d'un Plasma dans une Cavite a Parois Spheriques, 7 May 58.

Approximate calculations establish the characteristic orders of magnitude of the confinement of plasmas of a density of $10^7 < n_e < 10^{10}$ p/cm^3 and of a temperature $5 \times 10^3 < T < 10^5$°K by microwaves in a cavity of double spherical walls. The plasma to be confined constitutes the central spherical nucleus; the skin effect produces the internal wall of the cavity, with the external wall being a second concentric spherical metal surface. Stationary waves are created in the space between the two spherical surfaces. To this end the modes H_{101}, H_{102} and H_{103} of this cavity are excited, resulting in stationary waves with which the radiation energy is utilized for the prolonged confinement of the plasma, confinement whose duration can be indefinite if one can realize the energy equilibrium between the energy received by the nucleus and that lost by the same nucleus in its diverse forms. (Author)

Katzenelenbaum, V. Z.
PERTURBATION OF THE ELECTROMAGNETIC FIELD FOR SMALL DEFORMATIONS OF THE METAL SURFACE. [1959] 17p.
Order from MDF $8.50 MDF K-179

Trans. of Zh[urnal] Tekh[nicheskoy] Fiz[iki] (USSR) 1955, v. 25, no. 3, p. 546-557.
Another translation is available from SLA as RT-3037 [17]p.

Lyubimov, G. A.
INVESTIGATION OF STATIONARY SURFACES OF DISCONTINUITY WITH A JUMP IN THE GAS CONDUCTIVITY IN AN ELECTROMAGNETIC FIELD. [1959] 10p. 8 refs.
Order from MDF $5.00 MDF L-128

Trans. of A[kademiya] N[auk] SSSR. O[tdeleniye] T[ekhnicheskikh] N[auk]. Izvestiya: M[ekhanika] i M[ashinostroyeniye] 1959, no. 5, p. 9-15.

Tkalich, V. S.
TRANSFORMATION OF THE SYSTEM OF EQUATIONS OF THE HYDRODYNAMIC APPROXIMATION OF A PLASMA. [1959] 3p. 4 refs.
Order from MDF $2.00 MDF T-138

Trans. of A[kademiya] N[auk] SSSR. O[tdeleniye] T[ekhnicheskikh] N[auk]. Izv[estiya]: M[ekhanika] i M[ashinostroyeniye] 1959, no. 5, p. 122-123.

Thermodynamics

Abas-Zade, A. K.
A NEW INSTRUMENT FOR MEASURING THE HEAT CONDUCTIVITY OF LIQUIDS AND VAPORS AT HIGH TEMPERATURES AND PRESSURES. [1959] [10]p. (5 refs. omitted) 1 ref.
Order from LC or SLA mi$1.80, ph$1.80 AEC-tr-3796

Trans. of [Akademiya Nauk Azerbaydzhanskoy SSR, Baku. Doklady] 1947, v. 3, no. 1 [p. 3-7].

Godnev, Ivan Nicolayevich.
CALCULATION OF THERMODYNAMIC FUNCTIONS FROM MOLECULAR DATA. Nov 59 [34]p. 268 refs.
Order from OTS $5.00 AEC-tr-3855

Trans. of mono. Vychisleniye Termodinamicheskikh Funktsiy po Moleculyarnym Dannym, Moscow, 1956.

The elements of statistical thermodynamics and their application in calculating the thermodynamic functions of gases with a partial analysis for fluids and solids, as well as methods of calculating chemical equilibriums and reactions of isotopic exchange are covered. In calculating these thermodynamic functions, the necessary molecular data including states and levels of energy are considered. The book is intended for senior upper-classmen in physio-chemical specialties, post-graduate students, engineers, and scientists interested in thermodynamics and its applications.

Hoffmann, Fr.
THE OPTICAL TEMPERATURE SCALE AND THE RADIATION CONSTANTS (Die Optische Temperaturskala und die Strahlungskonstanten) tr. by Mary L. Mahler. Nov 58 [25]p. 40 refs. CC-L-399.
Order from LC or SLA mi$2.70, ph$4.80 59-16793

Trans. of Zeitschrift für Angewandte Physik (West Germany) 1950, v. 2, no. 2, p. 88-95.

A critical consideration of the foundations of the optical temperature scale by correlation with the gas thermometric scale according to the optical-pyro-

metric method, which essentially amounts to a determination of the exponential constant c_2 of the Wien-Planck radiation equation, shows that the experimental data are not yet sufficient for obtaining a final opinion on the position of the optical scale compared to the thermodynamic scale. The resolution of the Bureau International des Poids et Mesures in Paris 1948, by which a new optical temperature scale was established, appears therefore premature. For this new scale, the value for the gold point $t_{Au} = 1063^{\circ}$ C was retained, but the radiation constant was fixed at $c_2 = 1.438$ instead of, as before, at 1.432 cm×degree. The discrepancy existing in this scale between the theoretical value of the total-radiation constant σ and its experimental value is discussed. The error in c_2 is discussed and shown graphically.

Kaganer, M. G.
MAXIMA OF THERMODYNAMIC PROPERTIES AND THE TRANSITION OF GAS TO LIQUID IN THE SUPRACRITICAL REGION (Maksimumy Termodinamicheskikh Svoystv i Perekhod ot Gaza k Zhidkosti v Nadkriticheskoy Oblasti) tr. by G. Belkov. 1959, 19p. 38 refs. Technical Trans. 834.
Order from NRCC NRC C-3171

Trans. of Zhur[nal] Fiz[icheskoy] Khim[ii] (USSR 1958, v. 32, no. 2, p. 332-339.

The maxima of isobaric and isochoric heat capacities and of the isothermal throttle effect in the supracritical region have been located. The line of maxima isobaric heat capacities on the isobars and maxima isochoric heat capacities on the isochors is a natural prolongation of the saturated vapor pressure curve and passes over to the isotherm at $T \approx 1.21$. In the vicinity of this line the transition from gas to liquid or, to be more exact, the intensive formation of associated molecular complexes takes place. The pressure dependence of the density along the lines of the maxima has been elucidated. The density on the line $\partial C_p/\partial p)_T = 0$ increases uniformly with the pressure rising to a value $p = 1.55$ at $\pi = 25$. In coordinates of density and pressure the line $(\partial\delta/\partial p)_T$ is a natural prolongation of the "linear diameter" of liquid and gas densities in the saturation region. Along the lines of maxima isobaric heat capacities and isothermal throttle effects on the isotherms the reduced values of these quantities $(C_p - C_p0)/R$ and δ/v_c are directly proportional to the quantity $1/(\tau - 1)$. Along the lines of maxima heat capacities and throttle effect maxima on the isobars the reduced values are linearly related to the quantity $1/(\pi - 1)$. These relationships hold for the entire region of states investigated up to the highest temperatures and pressures. (Author)

Markov, B. F.
THERMODYNAMIC PROPERTIES OF SOLUTIONS OF MOLTEN SALTS. [1959] 12p. (10 figs. omitted) 17 refs.
Order from LC or SLA mi$2.40, ph$3.30 AEC-tr-2643

Trans. of Ukrain[skiy] Khim[icheskiy] Zhurn[al] (USSR) 1955, v. 21, p. 703-709.

Wave Propagation

Gertzenshteyn, M. E.
RADIOWAVE SCATTERING BY LOCAL INHOMOGENEITIES OF THE IONOSPHERIC PLASMA. [1959] 6p.
Order from MDF $3.00 MDF G-151

Trans. of Zh[urnal] Eksp[erimental'noy i] Teor[eticheskoy] Fiz[iki] (USSR) 1952, v. 23, no. 6(12) p. 678-681.
Another translation is available from SLA as RT-3087 [6]p.

Lysanov, Yu. P.
CONTRIBUTION TO THE QUESTION OF THE SCATTERING OF ELECTROMAGNETIC WAVES BY UNEVEN SURFACES [K Voprosu o Rasseyanii Elektromagnitnykh Voln na Nerovnoy Poverkhnosti] [1959] 6p.
Order from MDF $3.00 MDF L-120

Trans. of A[kademiya] N[auk] SSSR. Doklady, 1952, v. 87, no. 5, p. 719-722.
Another translation is available from SLA as RT-3050, 6p.

Vandakurov, Yu. V.
DIFFRACTION BY A PERFECTLY CONDUCTING HALF-PLANE OF ELECTROMAGNETIC WAVES EMITTED BY AN ARBITRARILY ORIENTED ELECTRIC AND MAGNETIC DIPOLE. [1959] 22p.
Order from MDF $5.50 MDF V-129

Trans. of Zh[urnal] Eksp[erimental'noy] i Teor[eticheskoy] Fiz[iki] (USSR) 1954, v. 26, no. 1, p. 3-18.
Another translation is available from SLA as RT-3113 [22]p.

Zernov, N. V.
ON THE QUESTION OF THE DIFFRACTION OF PLANE-CYLINDRICAL ELECTROMAGNETIC WAVES. [1959] 14p.
Order from MDF $7.00 MDF Z-116

Trans. of Zh[urnal] Tekh[nicheskoy] Fiz[iki] (USSR) 1951, v. 21, no. 9, p. 1066-1075.
Another translation is available from SLA as RI-3086 [14]p.

RESEARCH METHODS, TECHNIQUES AND EQUIPMENT

SCIENTIFIC INFORMATION REPT. 29 Jan 60. 103p.
Order from OTS $2.75, $28.00/year PB 131 891T-39

Consists of unevaluated information extracted from publications of USSR, Eastern Europe, and China.

Anisimov, S. F.
CYBERNETICS AND COMPUTERS IN THE USSR; MAN AND MACHINE (PHILOSOPHICAL PROBLEMS OF CYBERNETICS). 24 Nov 59, 53p. 30 refs.
JPRS: 1990-N.
Order from OTS $1.50 60-11007

Trans. of mono. Chelovek i Mashina (Filosofskiye Problemy Kibernetiki) Moscow, 1959, p. 3-56.

A survey.

Brodskiy, A. I. and Pronenko, V. I.
MICROCALORIMETERS FOR MEASURING SUPER-HIGH FREQUENCY POWER IN THE 3-CENTIMETRE RANGE (Mikrokalorimetry dlya Izmereniya S. V. Ch. Moshchnosti v 3-Santimetrovom Dyapazone) tr. by J. W. Palmer. Mar 59 [6]p. Library Trans. no. 807; M 473.
Order from LC or SLA mi$1.80, ph$1.80 59-22536

Trans. of Izmeritel'naya Tekhnika (USSR) 1957, no. 5, p. 65-66.

Two calorimetric instruments for the measurement of microwave power are described in which the heat generated is measured by isothermal techniques. In both cases thermal losses are eliminated by surrounding the instrument with a thermostatically controlled enclosure maintained at the temperature of the calorimetric system. General descriptions of the instruemnts are given, illustrated by schematic diagrams, but no dimensions are quoted. The magnitudes of the errors resulting from various causes are stated and the measuring techniques briefly discussed. The first instrument utilizes the melting of ice for heat measurement, the quantity melted being deduced from the readings of a sensitive volume indicator. The second instrument utilizes the Peltier effect in a semi-conductor cooling element to absorb the heat generated by the microwave power and so maintain isothermal conditions. Direct current heaters are used to calibrate the instrument. Both instruments are capable of an accuracy of the order of ±2%, the ice calorimeter over the power range 100 mw to 10 w and the Peltier effect calorimeter over the range 30 to 400 mw. Work is continuing with the object of improving accuracy and developing instruments for other frequency ranges. (Royal Aircraft Establishment abstract)

Michaelis, Karl.
REMARKS ON THE PRE-EXAMINATION OF AMERICAN PATENT APPLICATIONS, tr. by John G. White. June 55 [7]p. 8 refs.
Order from SLA mi$1.80, ph$1.80 60-10774

Trans. of Chemie-Ingenieur-Technik (West Germany) 1954, v. 26 [no. 7] p. 421-[422].

Valitov, R. A. and Aleksandrov, P. A.
MECHANICAL OUTPUT FORCE DURING THE EMISSION OF ELETRO-MAGNETIC ENERGY AND THE POSSIBILITY OF USING IT FOR MEASURING PURPOSES (Ponderomotornaya Sila Otdachi pri Izluchenii Elektromagnetnoy Energii i Vozmozhnost' Ispol'zovaniya yeye dlya Izmeritel'nykh Tseley) tr. by J. W. Palmer. Mar 5[7]p. 6 refs. Library Trans. no. 808; M 474.
Order from LC or SLA mi$1.80, ph$1.80 59-22537

Trans. of Izmeritel'naya Tekhnika (USSR) 1957, no. 5, p. 67-68.

The formula giving the magnitude of the mechanical forces acting on a system radiating electro-magnetic energy asymmetrically is quoted and experiments designed to investigate this phenomenon are discussed. An experimental radiating system designed to develop a torque while emitting electro-magnetic energy is described and shown in a sketch; two experimental rigs utilizing this system are discussed and the apparatus illustrated by schematic diagrams. The possibility of applying this phenomenon to the measurement of microwave power is examined and it is shown that it also provides a simple method of measuring the dielectric constant of a gas. (Royal Aircraft Establishment abstract)

SOCIAL SCIENCES

Makushin, V.
CONFERENCE ON THE SCIENTIFIC ORGANIZATION OF LABOR HELD IN SVERDLOVSK, USSR 16-19 DEC 59. 3 Nov 59, 8p. JPRS: L-1924-D.
Order from OTS $0.50 59-31031

Trans. of Byulleten' Nauchnoy Informatsii. Trud i Zarabotnaya Plata (USSR) 1959, no. 3, p. 51-56.

Titles and authors are given of papers that were read at the conference. Brief summaries or statements of the topics covered are generally included.

Documentation

Svoboda, Antonin.
RATIONAL NUMERICAL SYSTEM OF RESIDUAL CLASSES. [1959] 29p.
Order from MDF $15.00 MDF S-132

Trans. of Stroje na Zpracovani Informaci (Czechoslovakia) 1957, v. 5, p. 97.

Tsaregradskiy, I. P.
REMARK ON THE CAPACITY OF STATIONARY CHANNEL WITH A FINITE MEMORY. [1959] 14p.
Order from MDF $14.00 MDF T-133

Trans. of *Teoriya Veroyatnostey i yeye Primeneniya] (USSR) 1958, v. 3, no. 1, p. 84-96.

BOOK REVIEWS

The following book reviews can be ordered by number from LC or SA. Each review includes, in addition to the material shown, a detailed statement of the coverage of the book and a detailed table of contents. The length of each review is indicated at the end of the entr.

BR-SOV/2240
Fastovskiy, Izya Abramovich and Il'ya Mikhaylovich Furmanov
TIPOVYYE PRIBORY DLYA IZMERENIYA INDUSTRIAL'NYKH RADIOPOMEKH (Standard Instruments for Measuring Industrial Radio Interferences) Leningrad, Sudpromgiz, 1959. 119 p. 41,200 copies printed. 3 p. Mi $1.80, ph $1.80

BR-SOV/2257
Korotkov, Viktor Ivanovich, and Anatoliy Mefodiyevich Chernysh
KORABLI BUDUSHCHEGO; ATOMOKHODY (Ships of the Future; Atomic-powered Vessels) Moscow, Voyen. Izd-vo M-va obor. SSSR, 1959. 112p. (Series: Bibliotechka v pomoshch' ofitseru VMF) No. of copies printed not given. 2 p. Mi $1.80, ph $1.80

BR-CZECH/2357
Polansky, Frantisek
VNITRNI BALISTIKA DEL (Interior Ballistics of Guns) Praha, Nase vojsko, 1958. 440 p. (Series: Velka vojenska knihovna, sv. 76) 600 copies printed. 6 p. Mi $1.80, ph $1.80

BR-POL/2358
Rotkiewicz, Wilhelm
TECHNIKA ODBIORU RADIOWEGO (Radio Receiving Techniques) v. 2. Warszawa, Panstowe Wydawnictwa Techniczne, 1954. 451 p. Errata slip inserted. 8,140 copies. 9 p. Mi $1.80, ph $1.80

BR-CZECH/2360
Pisek, Frantisek, Ales Vetiska, Jiri Skarek, Karel Ciha, Martin Cernohorsky and Dalibor Ruzicka
NAUKA O MATERIALU. II. 1. SVAZEK; 2 SVAZEK (The Science of Materials. Vol II. Part 1 and Part 2) Praha, Nakladatelstvi Ceskoslovenske Akademie Ved, 1959. Part 1, 658 p., Part 2, 669 p. Errata slip inserted. 4250 copies printed. 23 p. Mi $2.70, ph ph $4.80

BR-SOV/2466
Uchastkin, Petr Vasil'yevich
USTANOVKI ISKUSSTVENNOGO KLIMATA V GORYACHIKH TSEKHAKH (Air Conditioning in Units of Plants With High-temperature Conditions) Moscow, Profizda 1958. 270 p. 3,500 copies printed. 4 p. Mi $1.80, ph $1.80

BR-CZECH/2487
Kucera, Jaroslav Josef Hapl
VINUTI ELEKTRICYCH STROJU TOCIVYCH (Winding of Electric Rotating Machines) Prague, Nakladatelstvi Ceskoslovenske Akademie Ved, 1959. 899 p. Errata slip inserted. 2,250 copies printed. 7 p Mi $1.80, ph $1.80

BR-BUL/2488
Yovchev, Yovcho Si
POLEZNI IZKOPAYEM ch. 2; tom 1 (Ore Deposits, Pt. 2, Vol 1) Sofia, Durzhavno izd-vo "Nauki i izkustvo," 195[illegible]. 511 p. 1,562 copies printed. 13 p. Mi $2.40, ph $3.30

BR-POL/2516
Paszkowski, Stanislaw
ZASADY KIEROWANIA ZDALNEGO POCISKAMI RAKIETOWYMI (Principles of the Remote Control of Rockets) [Warsaw] Wyd-wo Min. obrony narodowej, 1958. 259 p. Errata slip inserted. 1,000 copies printed. 6 p. Mi $1.80, ph $1.80

BR-CZECH/2518
Kulda, Vojtech
ELEKTRICKA ZARIZENI OBRABECICH STROJU (Electrical Equipment of Machine Tools) Praha, S.N.T.L., 1958. 430 p. 3200 copies printed. 9 p. Mi $1.80, ph $1.80

BR-SOV/2614
Radunskiy, Lev Davydovich
RAZVITIYE TEKHNIKI ELEKRICHESKOY DUGOVOY SVARKI METALLOV V ROSSII (Development of the Technique of Electric Arc Welding of Metals in Russia) Moscow, Gosenergoizdat, 1959. 167 p. 2,300 copies printed. 1 p. Mi $1.80, ph $1.80

BR-SOV/2655
Tetel'baum, Il'ya Markovich
ELEKTRICHESKOYE MODELIROVANIYE (Electric Analoging) Moscow, Izmatgiz, 1959. 319 p. 10,000 copies printed 3 p. Mi $1.80, ph $1.80

BR-SOV/2656
AVTOMATICHESKOYE UPRAVLENIYE I VYCHISLITEL'NAYA TEKHNIKA, VYP. 2 (Automatic Control and Computatio Technique, Nr 2) Moscow, Mashgiz, 1959. 16 p. Errata slip inserted. 8,000 copies printed. 3 p. Mi $1.80, ph $1.80

BR-SOV/2703
Nauchno-tekhnicheskoye obshchestvo mashinostroitel'noy promyshlennosti. Kiyevskoye Oblastnoye pravleniye.
MEKHANIZATSIYA I AVTOMATIZATSIYA V MASHINOSTROYENII; [SBORNIK STATEY] (Mechanization and Automationn Machine Manufacturing; Collection of Articls) Moscow, Mashgiz, 1959. 286 p. 8,00 copies printed. 3 p. Mi $1.80, ph $1.80

BR-SOV/2705
Zhuravlev, Vitaliy Nikanovich
SNIZHENIYE VESA MASHINOSTROITEL'NYKH KONSTRUKTSIY (Reducing the Weight of Constructions Used in Machinery) Moscow, Mashgiz, 1959. 272 p. Errata slip inserted. 8,000 copies printed. 7 p. Mi $1.80, ph $1.80

BR-SOV/2717
Dolgov, Boris Nikolayevch
KATALIZ V ORGANICHESKOY KHIMII (Catalysis in Organic Chemistry) 2d ed., rev. and enl. Leningrad, Goskhimizdat, 1959. 807 p. Errata slip inserted 8,000 copies printed. 10 p. Mi $1.80, ph $1.80

BR-SOV/2718
Akademiya nauk SSSR. Institut nauchnoy informatsii
KHIMIYA I TEKHNOLOGIYA SINTETICHESKIKH VYSOKOMOLEKULYARNYKH SOYEDINENIY; [OBZOR LITERATURY / ZA 1953-1956 GG./PO KHIMII I TEKHNOLOGII SINTETICHESKIKH VYSOKOMOLEKULYARNYKH SOYEDINENIY] VYP. 1 (Chemistry and Technology of Synthetic High Molecular Weig Compounds; Literature Review for the Years 1953-1956 on the Chemistry and Technology of Synthetic High Molecular Weight compounds, No. 1) Moscow, Izd-vo AN SSSR, 1959. 2 v. (1095 p. (Series: Itogi nauki; khimicheskiye nauki, 3) Errata slips inserted 4,000 copies printed. 5 Mi $1.80, ph $1.80

BR-SOV/2754
Akademiya stroitel'stva i arkhitektury SSSR. Institute osnovaniy i podzemnykh sooruzheniy
VREMENNYYE TEKHNICHESKIYE UKAZANIYA PO STROITEL'STVU TONNELEY SPOSOBOM PRODAVLIVANIYA (Tempary Technical Specifications for Tunnel Construction by the Shielding Method) Moscow, Gosstroyizdat, 1958. 178 p. 2,000 copies printed. Mi $1.80, ph $1.80

BR-SOV/2765
Fedorovich, Mikhail Mikhaylovich
ORGANIZATSIYA I PLANIROVANIYE KHIMICHESKOGO PREDPRIYATIYA (Organization and Planning of Chemical Enterprises) Moscow, Gosplanizdat, 1959. 547 p. Errata slip inserted. 7,000 copies printed. 8 p. Mi $1.80, ph $1.80

BR-SOV/2790
Drachev, Gennadiy Grigor'yevich, and Lev Aleksandrovich Nikolayev
AKKUMULYATORY PODVIZHNOGO SOSTAVA I IKH OBSLUZHIVANIYE (Rolling Stock Storage Batteries and Their Maintenance) Moscow, Transzheldorizdat, 1959. 123 p. 10,000 copies printed. 3 p. Mi $1.80, ph $1.80

BR-SOV/2798
Rodigin, Nikolay Mikhaylovich, and Ida Yegorovna Korobeynikova
KONTROL' KACHESTVA IZDELIY METODOM VIKHREVYKH TOKOV (Use of Eddy Currents in Inspecting the Quality of Piece Parts) Moscow Mashgiz, 1958. 61 p. (Series: Obmen tekhnicheskium opytom) Errata slip inserted. 4,500 copies printed. 2 p. Mi $1.80, ph $1.80

BR-POL/2816
Trzebiatowski, Wlodzimierz
CHEMIA NIEORGANICZNA (Inorganic Chemistry) Warszawa, Panstwowe wyd-wo naukowe, 1959. 779 p. Errata slip inserted. 10,200 copies printed 17 p. Mi $2.40, ph $3.30

BR-SOV/2828
Shaburov, Solomon Ivanovich
SPETSIAL'NYYE VOPROSY PROYEKTIROVANIYA GORNYKH LINIY ELEKTROPEREDACHI (Special Problems in Designing Electric Transmission Lines in Mountanious Areas) Moscow, Gosenergoizdat, 1959. 111 p. 3,450 copies printed. 2 p. Mi $1.80, ph $1.80

BR-SOV/2831
MEKHANIZATSIYA I AVTOMATIZATSIYA TRUDOYEMKIKH PROTSESSOV V LITEYNOM PROIZVODSTVE (Mechanization and Automation of Labor-consuming Processes in Foundry Practice) Moscow, Mashgiz, 1959. 226 p. Errata slip inserted. 4,000 copies printed. 5 p. Mi $1.80, ph $1.80

BR-SOV/2832
Ivanov, Vladimir Nikolayevich
BRAK I DEFEKTY V LIT'YE PO VYPLAVLYAYEMYM MODELYAM (Rejects and Defects in Investment Casting) Moscow, Mashgiz, 1959. 71 p. 4,300 copies printed. 2 p. Mi $1.80, ph $1.80

BR-SOV/2833
Medovar, Boris Izraylevich
ELEKTRODUGOVAYA SVARKA AUSTENITNYKH STALEY (Arc Welding of Austenitic Steels) Kiyev, Mashgiz, 1958. 97 p. (Series: Biblioteka svarshchika) 10,000 copies printed. 2 p. Mi $1.80, ph $1.80

BR-SOV/2838
Akademiya nauk Kazakhskoy SSR. Institut yadernoy fiziki
TRUDY/LABRATORIYA METALLOVEDENIYA I FIZIKI MATALLOV/, TOM 2 (Transactions of the Institute of Nuclear Physics, Kazakh S. S. R. Academy of Sciences/Laboratory for Metallurgical Science and Physics of Metals/, Vol 2) Alma-Ata, Izd-vo AN Kazakhskoy SSR, 1959. 169 p. 1,000 copies printed. 3 p. Mi $1.80, ph $1.80

BR-SOV/2839
International Conference on the Peaceful Uses of Atomic Energy. 2d, Geneva, 1958
YADERNAYA ENERGETIKA; SBORNIK DOKLADOV... PO NEKOTORYM VOPROSAM YADERNOY ENERGETIKI (Nuclear Power Engineering; Collection of Reports of the Conference on Some Problems in Nuclear Power Engineering) Moscow, Inoizdat, 1959. 179 p. Number of copies printed not given. 1 p. Mi $1.80, ph $1.80

BR-SOV/2840
USSR. Ministerstovo geologii i okhrany nedr
INSTRUKTSIYA PO SOSTAVLENIYU I PODGOTOVKE K IZDANIYU GEOLOGICHESKOY KARTY I KARTY POLEZNYKH ISKOPAYEMYKH MASSHTABA 1:200,000; OBYAZATEL'NA DLYA GEOLOGICHESKIKH ORGANIZATSIY MINISTERSTV I VEDOMSTV SSSR (Instructions for the Compilation and Preparation of Geological Maps and Maps of Mineral Resources at a Scale of 1:200,000; Mandatory for Geological Organizations of Ministries and Agencies of the USSR) Moscow, Gosgeoltekhizdat, 1955. 46 p., 2 fold maps 10,000 copies printed. 2 p. Mi $1.80, ph $1.80

BR-SOV/2842
Mikhnevich, Grigoriy Vasil'yevich, Viktor Pavlovich Ryazanov, and Alexsandra Dmitriyevna Sibiryakova
GOEDEZIYA, CH. 2 (Geodesy, Pt. 2) Moscow, Geodezizdat, 1959. 334 p. Errata slip inserted 6,000 copies printed. 5 p. Mi $1.80, ph $1.80

BR-SOV/2843
Soveshchaniye po ratsional'nym sposobam fundamentostroyeniya na vechnomerzlykh gruntakh.
TRUDY... (Transactions of the Conference on Efficient Methods of Building Foundations on Permafrost Soils) Moscow, Gosstroyizdat, 1959. 131 p. Errata slip inserted. 1,200 copies printed. 2 p. Mi $1.80, ph $1.80

BR-SOV/2846
Kazinskiy, Vasiliy Aleksandrovich
MATEMATICHESKIYE TABLITSY DLYA APPROKSIMATSII GEOFIZICHESKIKH ANOMALIY I REDUKTSIY INTERPOLYATSIONNYMI MNOGOCHLENAMI (Mathematical Tables for Approximating Geophysical Anomalies and Reductions by Means of Interpolative Polynomials) Moscow, Izd-vo AN SSSR, 1959. 89p. 2,000 copies printed. 3 p. Mi $1.80, ph $1.80

BR-SOV/2847
Akademiya nauk SSSR. Institut poluprovodnikov
NAUCHNAYA LITERATURA PO POLUPROVODNIKOVYM ELEKTRONNYM PRIBORAM; DETEKTORY I TRANZISTORY. BIBLIOGRAFIYA 1945 to 1955 (Scientific Literature on Semiconductor Electronic Devices; Detectors and Transistors. Bibliography from 1945 to 1955) Moscow, Izd-vo AN SSSR, 1959. 326 p. 2,700 copies printed. 3 p. Mi $1.80, ph $1.80

BR-SOV/2848
Sapozhkov, Mikhail Andreyevich
ZASHCHITA TRAKTOV RADIO I PROVODNOY TELEFONNOY SVYAZI OT POMEKH I SHUMOV (Protection of Radio and Wire Telephone Communication From Interferences and Noises) Moscow, Svyaz'izdat, 1959. 253 p. Errata slip inserted. 5,000 copies printed. 3 p. Mi $1.80, ph $1.80

BR-SOV/2849
Neyman, Leonid Robertovich and Pavel Lazarevich Kalantarov
TEORETICHESKIYE OSNOVY ELEKTROTEKHNIKI. CH. 3: TEORIYA ELEKTROMAGNITNOGO POLYA (Theoretical Fundamentals of Electrical Engineering. Pt. 3: Theory of the Electromagnetic Field) 5th ed., rev. Moscow, Gosenergoizdat, 1959. 231 p. 75,000 copies printed. 5 p. Mi $1.80, ph $1.80

BR-SOV/2850
Sivers, Arkadiy Petrovich, Nikolay Aleksandrovich Suslov, and Vasiliy Ignat'yevich Metel'skiy
OSNOVY RADIOLOKATSII (Fundamentals of Radar) Leningrad, Sudpromgiz, 1959. 350 p. Errata slip inserted. 25,500 copies printed. 5 p. Mi $1.80, ph, $1.80

BR-SOV/2851
Feygin, Viktor Iosifovich
ELEKTRONNYYE PRIBORY V METALLURGII (Electronic Instruments in Metallurgy) Moscow, Metallurgizdat, 1959. 221 p. Errata slip inserted. 6,100 copies printed. 2 p. Mi $1.80, ph $1.80

BR-SOV/2853
Zaychenko, I. Z.
OSNOVY TEORII DINAMICHESKOY USTOYCHIVOSTI GIDROPEREDACH METALLOREZHUSHCKIKH STANKOV; AVTOREFERAT DISSERTATSII. PREDSTAVLENNOY NA SOISKANIYE UCHENOY STEPENI DOKTORA TEKHNICHESKIKH NAUK (Fundamentals of the Theory of Dynamic Stability of Hydraulic Circuits in Metal-cutting Machine Tools; Author's Abstract of a Dissertation Presented for the Degree of Doctor of Technical Sciences) Moscow, Tsentr. byuro tekhn. informatsii ENIMS, 1958. 19 p. 200 copies printed. 2 p. Mi $1.80, ph $1.80

BR-SOV/2854
Kartavov, Sergey Alekseyevich
TEKHNOLOGICHESKIYE RASCHETY V MASHINOSTROYENII (PO NAIBOLEYE VEROYATNOMU VREMENI OBRABOTKI) (Technological Calculations in Machinery Manufacture; Based on the Most Probable Lengths of Time Required for Operations) Kiyev, Gostekhizdat Ukrainskoy SSR, 1958. 58 p. 1,500 copies printed. 2 p. Mi $1.80, ph $1.80

BR-SOV/2855
Rabotin, Aleksandr Nikolayevich
TOCHNOST' OBRABOTKI DETALEY MASHIN (Accuracy in Machining Machine Elements) 3d ed. Moscow, Mashgiz, 1959. 41 p. (Series: Nauchno-populyarnaya biblioteka rabochego stanochnika, vyp. 21) 8,500 copies printed. 1 p. Mi $1.80, ph $1.80

BR-SOV/2858
Medzhibozhskiy, Miron Yakovlevich
INTENSIFIKATSIYA MARTENOVSKOY PLAVKI VDUVANIYEM KOMPRESSORNOGO VOZDUKHA V VANNU (Intensification of the Open-hearth Process by Means of Compressed-air Blast), Moscow, Metallurgizdat, 1959. 172 p. Errata slip inserted. 2,500 copies printed. 2 p. Mi $1.80, ph $1.80

BR-SOV/2859
Akademiya nauk SSSR. Institut metallurgii
GORYACHIYE TRESHCHINY V SVARNYKH SOYEDINENIYAKH SLITKAKH I OTLIVKAKH (Hot Cracks in Welds, Ingots, and Castings) Moscow, Izd-vo AN SSSR, 1959. 163 p. 2,700 copies printed. 4 p. Mi $1.80, ph $1.80

BR-SOV/2860
Borisov, Sergey Ivanovich
PROIZVODSTVO TRUB NA USTANOVKAKH S AVTOMATICHESKIMI I PILIGRIMOVYMI STANAMI (Seamless Tubing Manufacture on Plug-rolling and Pilger Mills) Khar'kov, Metallurgizdat, 1959. 330 p. Errata slip inserted. 3,200 copies printed. 3 p. Mi $1.80, ph $1.80

BR-SOV/2861
Bardin, Ivan Pavlovich, Sergey Gavrilovich Afanas'yev, Mikhail Mikhaylovich Shumov, and Zinoviy Davidovich Epshteyn
PRIMENENIYE KISLORODA V KONVERTERNOM PROIZVODSTVE STALI (Use of Oxygen in the Production of Converter Steel) Moscow, Metallurgizdat, 1959. 264 p. Errata slip inserted. 2,500 copies printed. 3 p. Mi $1.80, ph $1.80

BR-SOV/2863
Gorshkov, Aleksandr Pavlovich
KAK USTANOVIT' RADIOPRIYEMNIK (How to Install Radio Receivers) 3d ed., rev. Moscow, Svyaz'izdat, 1958. 85 p. 195,000 copies printed. 3 p. Mi $1.80, ph $1.80

BR-SOV/2864
Gorin, Boris Nikolayevich and Meyer Vol'fovich Lokshin
IZMERENIYE UGLA DIELEKTRICHESKIKH POTER' PRI NALICHII VLIYANIY (Measurement of Dielectric Loss Angle in the Presence of Influencing Effects) Moscow, Gosenergoizdat, 1959. 55 p. (Series: Iz opyta sovetskoy energetiki) 4,300 copies printed. 2 p. Mi $1.80, ph $1.80

BR-SOV/2866
Kreyn, Solomon Efraimovich, and Revekka Viktorovna Kulakova
NEFTYANYYE IZOLYATSIONNYYE MASLA (Petroleum Insulating Oils) Moscow, Gosenergoizdat, 1959. 143 p. 6,000 copies printed. 3 p. Mi $1.80, ph $1.80

BR-SOV/2867
Vol'fkovich, S. I., Z. A. Rogovin, Yu. P. Rudenko, and I. V. Shmanenkov
OBSHCHAYA KHIMICHESKAYA TEKHNOLOGIYA, T. 2 (General Chemical Technology, Vol 2) Moscow, Goskhimizdat, 1959. 848 p. Errata slip inserted. 25,000 copies printed. 18 p. Mi $2.40, ph $3.30

BR-SOV/2869
Smolyankin, Ivan Vasil'yevich
ORGANIZATSIYA SBYTA PRODUKTSII NA METALLURGICHESKOM ZAVODE (Organization of Product Distribution at a Metallurgical Plant) Moscow, Metallurgizdat, 1959. 114 p. 1,400 copies printed. 3 p. Mi $1.80, ph $1.80

BR-SOV/2870
Balakshin, Boris Sergeyevich
OSNOVY TEKHNOLOGII MASHINOSTROYENIYA (Fundamentals in Machine-building Technology)

Moscow, Mashgiz, 1959. 485 p. 45,000 copies printed. 3 p. Mi $1.80, ph $1.80

BR-SOV/2871
Alekseyeva, S.M., A. I. Rivkin, and M. S. Khitruk
MODERNIZATSIYA BESTSENTROVYKH KRUGLOSHLIFOVAL'NYKH STANKOV (Modernization of Cylindrical Centerless Grinding Machines) Moscow, Mashgiz, 1957. 71 p. 6,700 copies printed. 2 p. Mi $1.80, ph $1.80

BR-SOV/2872
Vsesoyuznyy proyektno-tekhnologicheskiy institut tyazhelogo mashinostroyeniya.
NORMATIVY DLYA TEKHNICHESKOGO NORMIROVANIYA RABOT NA PRODOL'NOSTROGAL'NYKH, POPERECHNO-STROGAL'NYKH I DOLBEZHNYKH STANKAKH (Norms for Setting Standards for Planer, Shaping Machine, and Slotting Mill Operations) 2nd ed. Moscow, Mashgiz, 1958. 149 p. Errata slip inserted. 11,500 copies printed. 3 p. Mi $1.80, ph $1.80

BR-SOV/2874
Kravets, Torichan Pavlovich
TRUDY PO FIZIKE (Works in Physics) Moscow, Izd-vo AN SSSR, 1959. 339 p. Errata slip inserted. 2,000 copies printed 3 p. Mi $1.80, ph $1.80

BR-SOV/2877
Ginko, Sergey Sergeyevich
OSNOVY GIDROTEKHNIKI (Principles of Hydraulic Engineering) Leningrad, Gidrometeoizdat, 1958. 362 p. Errata slip inserted. 5,000 copies printed. 5 p. Mi $1.80, ph $1.80

BR-SOV/2878
Barkovskiy, Nikolay Dmitriyevich
KRATKOSROCHNOYE KREDITOVANIYE PROMYSHLENNOSTI SOVNARKHOZOV (Short Term Credit for Industries of National Economic Councils) Moscow, Gosfinizdat, 1959. 111 p. Errata slip inserted. 7,500 copies printed 2 p. Mi $1.80, ph $1.80

BR-SOV/2882
Kalashnikov, Anatoliy Mikhaylovich, and Yakov Vasil'yevich Stepuk
OSNOVY RADIOTEKHNIKI I RADIOLOKATSII, KNIGA 1: KOLEBATEL'NYYE SISTEMY (Principles of Radio Engineering and Radar, Book 1: Oscillation Systems) Moscow, Voyenizdat, 1959. 354 p. No. of copies printed not given. 6 p. Mi $1.80, ph $1.80

BR-SOV/2883
Kalashnikov, Anatoliy Mikhaylovich, and Veniamin Zakharovich Slutskiy
OSNOVY RADIOTEKHNIKI I RADIOLOKATSII, KNIGA 2. (Principles of Radio Engineering and Radar, Book 2) Moscow, Voyenizdat, 1959. 375 p. No. of copies printed not given. 6 p. Mi $1.80, ph $1.80

BR-SOV/2884
Moscow. Dom nauchno-tekhnicheskoy propagandy imeni F. E. Dzerzhinskogo
PLASTMASSY V MASHINOSTROYENII (Plastics in Machine Building) Moscow, Mashgiz, 1959. 236 p. Errata slip inserted. 8,000 copies printed. 2 p. Mi $1.80, ph $1.80

BR-SOV/2885
Tsentral'nyy nauchno-issledovatel'skiy institut tekhnologii i mashinostroyeniya
POVYSHENIYE PROCHNOSTI ELEMENTOV KONSTRUKTSIY I DETALEY MASHIN (Increasing the Strength of Constructional and Machine Elements) Moscow, Mashgiz, 1959. 210 p. (Series: Its: [Sbornik] kn. 91) 5,500 copies printed. 5 p. Mi $1.80, ph $1.80

BR-SOV/2886
Mirenburg, Lev Abramovich
REMONT ROTOROV TURBINNYKH GENERATOROV V STANTSIONNYKH USLOVIYAKH (Repair of Turbogenerator Rotors Under Field Conditions) 2d ed., rev. and enl. Moscow, Gosenergoizdat, 1959. 439 p. 8,000 copies printed. 4 p. Mi $1.80, ph $1.80

BR-SOV/2887
Leningrad. Politekhnicheskiy institut imeni M. I. Kalinina
METALLOVEDENIYE (Physical Metallurgy) Moscow, Mashgiz, 1959. 107 p. (Series: Its: Trudy, vyp. 202) 2,300 copies printed. 4 p. Mi $1.80, ph $1.80

BR-SOV/2888
Moscow. Inzhenerno-fizicheskiy institut
AVTOMATIKA I TELEMEKHANIKA; SBORNIK STATEY (Automation and Telemechanics; Collection of Articles) Moscow, 1958. 115 p. 3,000 copies printed. 4 p. Mi $180, ph $1.80

BR-SOV/2889
Moskovskiy dom nauchno-tekhnicheskoy propagandy imeni F. E. Dzerzhinskogo
SBORNIK ANNOTATSIY RATSIONALIZATORSKIKH PREDLOZHENIY I TEKHNICHESKIKH USOVERSHENSTVOVANIY V MASHINOSTROYENII, VYP. 2 (Collection of Notes on Proposed Methods for Increasing Efficiency and Improving Engineering Design in Machine Construction, No. 2) Moscow, 1958. 212 p. 5,000 copies

printed. 2 p. Mi $1.80, ph $1.80

BR-SOV/2890
Moskovskiy dom nauchno-tekhnicheskoy propagandy imeni F. E. Dzerzhinskogo
SBORNIK ANNOTATSIY RATSIONALIZATORSKIKH PREDLOZHENIY I TEKHNICHESKIKH USOVERSHENSTVOVANIY V MASHINOSTROYENII, VYP. 3 (Collection of Notes on Proposed Methods for Increasing Efficiency and Improving Engineering Design in Machine Construction, No. 3) Moscow, 1958. 115 p. 5,000 copies printed. 2 p. Mi $1.80, ph $1.80

BR-SOV/2891
Kutay, Anton Konstantinovich, and Khaim Borisovich Kordonskiy
ANALIZ TOCHNOSTI I KONTROL' KACHESTVA V MASHINOSTROYENII S PRIMENENIYEM METODOV MATEMATICHESKOY STATISTIKI (Precision Analysis and Quality Control in Mechanical Engineering With the Application of Mathematical Statistics) Moscow, Mashgiz, 1958. 362 p. Errata slip inserted. 10,000 copies printed. 4 p. Mi $1.80, ph $1.80

BR-SOV/2892
Abudullayev, M. K.
TEKHNIKA BEZOPASNOSTI PRI SVARKE METALLOV (Safety Engineering in Welding) 2nd ed., enl. [Moscow] Profizdat, 1954. 126 p. (Series: V pomoshch' profaktivu po okhrane truda) Errata slip inserted. 50,000 copies printed. 4 p. Mi $1.80, ph $1.80

BR-SOV/2895
Mitrofanov, Sergey Petrovich
NAUCHNYYE OSNOVY GRUPPOVOY TEKHNOLOGII (Scientific Fundamentals of Group Manufactruing Methods) [Leningrad] Lenizdat, 1959. 434 p. 20, 000 copies printed. 5 p. Mi $1.80, ph $1.80

BR-POL/2896
Lipski, Jan
LOTNICZA APARATURA TLENOWA (Aircraft Oxygen Equipment) Warsaw, Wyd-wa komunikacyjne, 1958. 140 p. 1,130 copies printed. 5 p. Mi $1.80, ph $1.80

BR-SOV/2898
Yel'yashkevich, Samuil Abramovich
PROVERKA LAMP V TELEVIZORAKH (Checking of Television Tubes) 2 d ed., rev. and enl. Moscow, Gosenergoizdat, 1959. 62 p. (Series: Massovaya radiobiblioteka, vyp. 329) 165,000 copies printed. 2 p. Mi $1.80, ph $1.80

BR-SOV/2900
Romanyuk, Anna Andreyevna
APPARATCHIK KISLORDNOY USTANOVKI; UCHEBNOYE POSOBIYE DLYA PROIZVODSTVENNO-TEKHNICHESKOGO OBUCHENIYA RABOCHIKH (Oxygen Plant Operation; Textbook for Industrial and Technical Training of Workers) Sverdlovsk, Metallurgizdat, 1959. 214 p. Errata slip inserted. 4,300 copies printed. 3 p. Mi $1.80, ph $1.80

BR-SOV/2901
Kulikov, Fedor Vasil'yevich, and Il'ya Romanovich Lekhtsiyer
OSNOVNYYE METODY MYAGKOY I TVERDOY PAYKI (Basic Methods of Soldering and Brazing) Moscow, Trudrezervizdat, 1958. 127 p. 15,000 copies printed. (Series: Biblioteka molodogo rabochego) 2 0. Mi $1.80, ph $1.80

BR-SOV/2902
Mikhaylov, Mikhail Ivanovich
VLIYANIYE VNESHNIKH ELEKTROMAGNITNYKH POLEY NA TSEPI PROVODNOY SVYAZI I ZASHCHITNYYE MEROPRIYATIYA (Effect of External Electromagnetic Fields on Wire Communication Circuits and Protection Measures) Moscow, Svyaz'izdat, 1959. 582 p. Errata slip inserted. 4,500 copies printed. 8 p. Mi $1.80, ph $1.80

BR-SOV/2903
ELEKTROIZOLYASIONNYYE MATERIALY. CH. 2: METODY ISPYTANIYA I PRIMENENIYA MATERIALOV (Electrical Insulating Materials. Pt. 2: Methods of Testing and Application of the Materials) Moscow, Gosenergoizdat, 1959. 476 p. (Series: Spravochnik po elektrotekhnicheskim materialam, t. 2) Errata slip inserted. 30,000 copies printed. 6 p. Mi $1.80, ph $1.80

BR-SOV/2905
Sokolov, Fedor Aleksandrovich, and Pavel Vasil'yevich Usov
TEKHNICHESKAYA MEKHANIKA (Engineering Mechanics) Moscow, Trudrezervizdat, 1958. 422 p. Errata slip inserted. 75,000 copies printed. 10 p. Mi $1.80, ph $1.80

BR-SOV/2906
Moscow. Vyssheye tekhnicheskoye uchilishche imeni Baumana. Kafedra matematicheskikh mashin
VYCHISLITEL'NAYA TEKHNIKA (Computer Techniques) Moscow, Mashgiz, 1959. 153 p. (Series: Moscow. Vyssheye tekhnicheskoye uchilishche. Sbornik, No. 2) 2,500 copies printed. 3 p. Mi $1.80, ph $1.80

BR-SOV/2907
Khmelevskiy, Viktor Samuilovich
NALADKA ELEKTROPRIVODA (Adjustment of the Electric Drive) Moscow, Gosenergoizdat, 1958. 143 p. 31,000 copies printed. 2 p. Mi $1.80, ph $1.80

BR-SOV/2908
Anisimov, Sergey Fedorovich
CHELOVEK I MASHINA; FILOSOFSKIYE PROBLEMY KIBERNETIKI (Man and Machine; Philosophical Problems of Cybernetics) Moscow, 1959. 53 p. 24,000 copies printed. 1 p. Mi $1.80, ph $1.80

BR-SOV/2909
Chistyakov, Aleksandr Mikhaylovich
NOVAYA METODIKA MODEL'NYKH ISSLEDOVANIY TURBIN REAKTIVNOGO TIPA I GIDROTURBINNYKH BLOKOV GES (New Methods of Using Models in the Study of Reaction Turbines and Hydraulic Turbine Units for Hydroelectric Power Plants) Moscow, Gosenergoizdat, 1958. 88 p. (Series: Tekhnicheskaya informatsiya) Errata slip inserted. 1,500 copies printed. 2 p. Mi $1.80, ph $1.80

BR-SOV/2911
Sominskiy, Vladimir Samuilovich, and Isay Semenovich Strogov (Slivker)
KHIMIYA - NARODU (Chemistry for the Benefit of the People) [Leningrad] Lenizdat, 1959. 102 p. 5,000 copies printed. 1 p. Mi $1.80, ph $1.80

BR-SOV/2913
Sotnikov, Sergey Kuz'mich
SVERKHDAL'NIY PRIYEM TELEVIDENIYA (Long-Distance Television Reception) Moscow, Gosenergoizdat, 1958. 62 p. (Series: Massovaya radiobiblioteka, vyp. 312) 50,000 copies printed. 2 p. Mi $1.80, ph $1.80

BR-SOV/2914
Vasil'yev, Kirill Vasil'yevich, and Il'ya Samoylovich Shapiro
DUGOVAYA ELEKTRICHESKAYA REZKA METALLOV (Electric-arc Cutting of Metals) Moscow, Trudrezervizdat, 1958. 66 p. (Series: Novaya tekhnika i peredovyye metody truda) 10,000 copies printed. 2 p. Mi $1.80, ph 1.80

BR-SOV/2915
Kempinskiy, Mikhail Mendelevich
PROYEKTIROVANIYE MEKHANIZMOV IZMERITEL'NYKH PRIBOROV (Designing Mechanisms for for Use in Measuring Instruments) Moscow, Mashgiz, 1959. 142 p. Errata slip inserted. 5,000 copies printed. 2 p. Mi $1.80, ph $1.80.

BR-SOV/2916
Kadaner, Lev Il'ich
NOVI METALY SUCHASNOYI TEKHNIKY (New Metals in Present-Day Engineering) Kyyiv, Derzhtekhvydav URSR, 1958. 39 p. (Series: Naukovo-populyarna biblioteka) 8,500 copies printed. 2 p. Mi $1.80, ph $1.80

BR-SOV/2917
Reutov, Oleg Aleksandrovich
ORGANICHESKIY SINTEZ I YEGO PERSPEKTIVY (Organic Synthesis and Prospects for Its Development) Moscow, Gostekhizdat, 1958. 95 p. (Series: Nauchno-populyarnaya biblioteka) 5000,000 copies printed. 2 p. Mi $1.80, ph $1.80

BR-SOV/2918
Norden, Aleksandr Petrovich
KRATKIY KURS DIFFERENTSIAL'NOY GEOMETRII (Short Course in Differential Geometry) 2d ed. Moscow. Fizmatigiz, 1958. 244 p 25,000 copies printed 6 p. Mi $1.80, ph $1.80

BR-SOV/2919
Selivanov, I. I., and A. I. Burger
STROITEL'NYYE MASHINY (Building Machinery) Leningrad, Gostroyizdat, 1958. 310 p. 25,000 copies printed. 6 p. Mi $1.80, ph $1.80

BR-SOV/2920
USSR. Vsesoyuznyy komitet standartov
STANKI METALLOOBRABATYVAYUSHCHIYE; OSNOVNYYE PARAMETRY I RAZMERY (Metalworking Machines; Basic Parameters and Dimensions) Official ed. Moscow, 1958. 95 p. (Series: SSSR. Gosudarstvennyye standarty) 6,000 copies printed. 3 p. Mi $1.80, ph $1.80

BR-SOV/2922
USSR. Vsesoyuznyy komitet standartov
ORGANICHESKIYE KRASITELI I VSPOMOGATEL'NYYE VESHCHESTVA (Organic Paints and Auxiliary Materials) Official ed. Moscow, 1958. 830 p. (Series: USSR. Gosudarstvennyye standarty) Errata slip inserted. 15,000 copies printed. 5 p. Mi $1.80, ph $1.80

BR-SOV/2923
Sizov, Vasiliy Nikolayevich
STROITEL'NYYE RABOTY V ZIMNIKH USLOVIYAKH (Construction Work Under Winter Conditions) 3d ed., rev. and enl. Moscow, Gosstroyizdat, 1958. 538 p. 10,000 copies printed. 10 p. Mi $1.80, ph $1.80

BR-SOV/2924
Bolotov, Boris Aleksandrovich, Vyacheslav Aleksandrovich Komarov, and Tat'yana Vsevolodovna Nizovkina
PRAKTICHESKIYE RABOTY PO ORGANICHESKOMU KATALIZU (Practical Studies in Organic Catalysis) [Leningrad] Izd-vo Leningr. univ., 1959. 194 p. Errata slip inserted. 4,120 copies printed. 3 p. Mi $ 1.80, ph $1.80

BR-SOV/2925
Baku. Azerbaydzhanskiy nauchno-issledovatel'skiy institut neftepererabatyvayushchey promyshlennosti imeni V. V. Kuybysheva.
SBORNIK TRUDOV, VYP. 2. (Collection of Works, No. 2) Baku, Aznefteizdat, 1958. 373 p. Errata slip inserted. 500 copies printed. 4 p. Mi $1.80, ph $1.80

BR-SOV/2928
Andozhskiy, Vsevolod Dmitriyevich, Aleksandr Ivanovich Belyanin, Vladimir L'vovich Veyts, Yevgeniy Grigor'yevich Ginzburg, Aleksey Illarionovich Yefimovich, Igor' Semenovich Krivenko, Vladimir Mikhaylovich Shannikov, and Izrail' Nakhmanovich Frenkel'
ZUBCHATYYE I CHERVYACHNYYE PEREDACHI; NEKOTORYYE VOPROSY TEORII, RASCHETA I PROIZVODSTVA (Spur Gear and Worm Gear Drives; Some Problems in Theory, Design, and Manufacture) Moscow, Mashgiz, 1959. 219 p. Errata slip inserted. 9,000 copies printed. 3 p. Mi $1.80, ph $1.80

BR-SOV/2929
Moscow. Eksperimental'nyy nauchno-issledovatel'skiy institut metallorezhushchikh stankov
TIPOVYYE TEKHNOLOGICHESKIYE PROTSESSY OBRABOTKI KORPUSNYKH DETALEY SREDNIKH RAZMEROV; RUKOVODYASHCHIYE MATERIALY (Standard Manufacturing Processes for Machining Medium-size Housings; Directives) Moscow, Tsentr. byuro tekhn. informatsii, 1958. 219 p. Errata slip inserted. 1,500 copies printed. 2 p. Mi $1.80, ph $1.80

BR-SOV/2930
Kosmachev, Ivan Grigor'yevich,
AVTOMATIZATSIYA NAPLAVKI REZHUSHCHIKH INSTRUMENTOV (Automatic Hard Facing of Metal-cutting Machine Tools) Moscow, Trudrezervizdat, 1958. 110 p. (Series: Novaya tekhnika i perodovyye metody truda) 5,000 copies printed. 2 p. Mi $1.80, ph $1.80

BR-SOV/2931
Konferentsiya po voprosam rascheta, konstruirovaniya i issledovaniy zubchatykh peredach i peredach gibkoy svyaz'yu. Odessa, 1957
RASCHET, KONSTRUIROVANIYE I ISSLEDOVANIYE PEREDACH; TRUDY KONFERENTSII..., VYP. 3 (Design, Construction, and Analysis of Transmissions; Transactions of a Conference on Problems in Design, Construction, and Analysis of Gears and Flexible Transmissions, No. 3) [Odessa] Izd. Odesskogo politekhn. in-ta, 1959. 124 p. 3,000 copies printed. 3 p. Mi $1.80, ph $1.80

BR-SOV/2933
Khomenko, Vyacheslav Andreyevich
POTOCHNYYE METODY I AVTOMATIZATSIYA-REZERVY POVYSHENIYA PROIZVODITEL'NOSTI TRUDA (Line Production Methods and Automation to Increase Labor Productivity) [Omsk] Omskoye obl. knizhnoye izd-vo, 1958. 70 p. 1,000 copies printed. 2 p. Mi $1.80, ph $1.80

BR-SOV/2941
Sadovskiy, A. I.
AKADEMIYA NAUK UZBEKSKOY SSR; SPRAVOCHNIK (UZBEK SSR Academy of Sciences a Handbook) Tashkent, Izd-vo AN Uzbekskoy SSR, 1958. 149 p. 2,000 copies printed. 4 p. Mi $1.80, ph $1.80

BR-SLOV/2943
Schmidt, Zdenko
TECHNICKA RUKOVAT PRE ODBORNE SKOLY A PRAX (Technical Handbook for Trade Schools and Shops) Bratislava, Slovenske Vydavatel'stvo Technickej Literatury, 1958. 685 p. 10,200 copies printed. 4 p. Mi $1.80, ph $1.80

BR-SOV/2944
Gubkin, Sergey Ivanovich, Mikhail Vasil'yevich Storozhev, Boris Pavlovich Zvorono, Vasiliy Fedorovich Katkov, Ilariy Anatol'yevich Noritsyn, Yevgeniy Aleksandrovich Popov, Georgiy Aleksandrovich Smirnov-Alyayev, Aleksandr Dmitriyevich Tomlenov, Yevgeniy Pavlovich Unksov, and Leopol'd Adol'fovich Shofman
OSNOVY TEORII OBRABOTKI METALLOV DAVLENIYEM (Fundamentals of the Theory of Metal Forming) Moscow, Mashgiz, 1959. 538 p. Errata slip inserted. 7,500 copies printed. 6 p. Mi $1.80, ph $1.80

BR-SOV/2945
Chirkin, Viktor Sergeyevich
TEPLOFIZICHESKIYE SVOYSTVA MATERIALOV; SPRAVOCHNOYE RUKOVODSTVO (Thermophysical Properties of Industrial Materials; a Handbook) Moscow, Fizmatgiz, 1959. 356 p. 12,000 copies printed. 4 p. Mi $1.80, ph $1.80

BR-SOV/2946
Leningrad. Universitet
VOPROSY KHIMII (Problems in Chemistry) [Leningrad] Izd-vo Leningradskogo univ., 1959. 160 p. Series: Its: Uchenyye zapiski, no. 272) (Series: Leningrad. Universitet. Khimicheskiy fakultet. Uchenyye zapiski. Seri ya khimicheskikh nauk, vyp. 18) 1,600 copies printed. 3 p. Mi $1.80, ph $1.80

BR-SOV/2947
Alekseyev, Aleksandr Mikhaylovich
RESHAYUSHCHIY ETAP V VYPOLNENII OSNOVNOY EKONOMICHESKOY ZADACHI SSSR (Decisive Stage in Fulfilling the Basic Economic Objective of the USSR) Moscow, Izd-vo "Znaniye", 1959. 47 p. (Series: Vsesoyuznoye obshchestvo po rasprostraneniyu politicheskikh i nauchnykh znaniy. Seriya 3, 1959. no. 17) 69,000 copies printed. 2 p. Mi $1.80, ph $1.80

BR-SOV/2949
Amalitskiy, Mikhail Vladimirovich
OSNOVY RADIOTEKHNIKI (Fundamentals of Radio Engineering) 3rd ed., rev. Moscow, Svyaz'izdat, 1959. 614 p. Errata slip inserted. 25,000 copies printed. 6 p. Mi $1.80, ph $1.80

BR-SOV/2950
Akhiyezer, Aleksandr Il'ich, and Vladimir Borisovich Berestetskiy
KVANTOVAYA ELEKTRODINAMIKA (Quantum Electrodynamics) 2d ed., rev. Moscow, Fizmatgiz, 1959. 656 p. Errata slip inserted. 10,000 copies printed. 13 p. Mi $2.40, ph 3.30

BR-SOV/2954
Poddubnyy, Vadim Nikolayevich
KORROZIYA ORUZHIYA I BOYEPRIPASOV (Corrosion of Arms and Ammunition) 2nd ed., rev. and enl. Moscow, Voyenizdat, 1959. 350 p. 4 p. Mi $1.80, ph $1.80

BR-SOV/2959
Yakovkin, Mikhail Vladimirovich
VYCHISLITEL'NYYE TABLITSY; POSOBIYE DLYA UCHITELEY (Computing Tables; Handbook for Teachers) Moscow, Uchpedgiz, 1958. 215 p. 38,000 copies printed. 2 p. Mi $1.80, ph $1.80

BR-SOV/2961
Podhorinov, Anatoliy Leonidovych, and Leonid Samsonovych Khilobochenko
HIDROENERGETYCHNE VYKORYSTANNYA MALYKH RICHOK UKRAYINY (Water Power Utilization of Small Rivers of the Ukraine) Kyyiv, Vyd-vo AN URSR, 1959. 193 p. 1,000 copies printed. 4 p. Mi $1.80, ph $1.80

BR-SOV/2962
Rogovin, Naum Aleksandrovich, and Isaak Davydovich Kots
OPYT STROITEL'STVA KRUPNYKH TEPLOVYKH ELEKTROSTANTSIY (Experience in Building Large Thermal Electric Power Plants) Moscow, Gosenergoizdat, 1959. 198 p. 3,000 copies printed. 3 p. Mi $1.80, ph $1.80

BR-SOV/2963
Vel'mina, Nina Aleksandrovna, and Vladimir Valer'yanovich Uzemblo
GIDROGEOLOGIYA TSENTRAL'NOY CHASTI YAKUTII (Hydrogeology of the Central Part of Southern Yakutiya) Moscow, AN SSSR, 1959. 177 p. 1,500 copies printed. 3 p. Mi $1.80, ph $1.80

BR-SOV/2965
Gladkikh, Petr Andreyevich, and Sergey Aramovich Khachaturyan
VIBRATSII V TRUBOPROVODAKH I METODY IKH USTRANENIYA (Methods of Eliminating Vibrations in Pipes) Moscow, Mashgiz, 1959. 242 p. Errata slip inserted. 2,500 copies printed. 3 p. Mi $1.80, ph $1.80

BR-SOV/2966
Rozenman, Yakov Aleksandrovich and Aleksandr Iosifovich Borisov
OPYT KUZNECHNYKH TSEKHOV METALLURGICHESKIKH ZAVODOV (Forge Shop Practice at Metallurgical Plants), Sverdlovsk, Metallurgizdat, Sverdlovskoye otd-niye, 1956. 77 p. Errata slip inserted. 3,700 copies printed. 2 p. Mi $1.80, ph $1.80

BR-SOV/2967
Akademiya nauk SSSR. Institut mashinovedeniya. Seminar po teorii mashin i mekhanizmov
TRUDY, TOM XIX, VYP. 74 (Transactions of the Institute of Machine Science, Academy of Sciences, USSR. Seminar on the Theory of AN SSSR, 1959. 66 p. Errata slip inserted. 2,500 copies printed. 2 p. Mi $1.80, ph $1.80

BR-SOV/2968
Bol'shakova, Lyudmila Mikhaylovna, and Yevgeniy Nikolayevich Modestov
USTROYSTVA DLYA EKIPIROVKI TEPLOVOZOV I ELEKTROVOZO (Devices for Servicing Diesel and Electric Locomotives) Moscow, Transzheldorizdat, 1959. 316 p. 10,000 copies printed. 2 p. Mi $1.80, ph $1.80

BR-SOV/2969
Moscow. Vsesoyuznyy nauchno-issledo-

vatel'skiy instrumental'nyy institut
VYSOKOPROIZVODITEL'NYYE KONSTRUK-TSII REZTSOV I IKH RATSIONAL'NAYA EKSPLUATATSIYA (High-productivity Single-point Tools and Their Efficient Use) Moscow, Mashgiz, 1959. 239 p. Errata slip inserted. 5,500 copies printed. 3 p. Mi $1.80, ph $1.80

BR-SOV/2970
Ogloblin, Aleksandr Nikolayevich
OSNOVY TOKARNOGO DELA (Fundamentals of Lathe Work) Moscow, Mashgiz, 1959. 317 p. Errata slip inserted. 75,000 copies printed. 3 p. Mi $1.80, ph $1.80

BR-SOV/2971
Fedorov, Boris Fedorovich
MEKHANIZATSIYA SLESARNO-SBOROCHNYKH I MONTAZHNYKH RABOT (Mechanization of Bench and Assembly Work) Moscow, Mashgiz, 1957. 306 p. Errata slip inserted. 18,000 copies printed. 3 p. Mi $1.80, ph $1.80

BR-SOV/2972
Dem'yankov, Nikolay Vladimirovich, and Vasiliy Alekseyevich Abramov
KHOLODIL'NYYE MASHINY I SOORUZHENIYA (Refrigeration Machinery and Establishments) Moscow, Transzheldorizdat, 1959. 434 p. 5,000 copies printed. 6 p. Mi $1.80, ph $1.80

BR-SOV/2974
Strigin, Ivan Alekseyevich
TEKHNICHESKIY PROGRESS TSVETNOY METALLURGII V SEMILETKE (Technological Progress in Nonferrous Metallurgy in the Seven-Year Plan) Moscow, Izd-vo "Znaniye," 1959. 30 p. (Series: Vsesoyuznoye obshchestvo po rasprostraneniyu politicheskikh i nauchnykh znaniy. Seriya IV, 1959. No. 25) 44,500 copies printed. 2 p. Mi $1.80, ph $1.80

BR-SOV/2977
Smilyanskiy, Zalman Gershevich
OSNOVY TEKHNIKI KONTROLYA RAZMEROV V MASHINOSTROYENII (Fundamentals of Dimensional Inspection in Machine Building) Moscow, Mashgiz, 1959. 245 p. Errata slip inserted. 18,000 copies printed. 3 p. Mi $1.80, ph $1.80

BR-SOV/2978
Borisov, I.
METALL V SEMILETKE; CHERNAYA METALLURGIYA SSSR V 1959-1965 godakh (Metal in the Seven-Year Plan; Ferrous Metallurgy in the USSR From 1959 to 1965) Moscow, Izd-vo "Znaniye", 1959. 31 p. (Series: Vsesoyuznoye obshchestvo po rasprostraneniyu politicheskikh i nauchnykh znaniy. Seriya III, 1959, No. 30) 55,000 copies printed. 1 p. Mi $1.80, ph $1.80

BR-SOV/2979
Vasil'yev, Dmitriy Vasil'yevich, and Voislav Georgiyevich Chuich
RASCHET SISTEM AVTOMATICHESKOGO UPRAVLENIYA; ZADACHI I PRIMERY (Design of Automatic Control Systems; Problems and Examples) Moscow, Mashgiz, 1959. 390 p. Errata slip inserted. 10,000 copies printed. 3 p. Mi $1.80, ph $1.80

BR-SOV/2980
Shavlyuga, Nikolay Ignat'yevich
KINEMATICHESKIYE TSEPI METALLOREZHUSHCHIKH STANKOV (Kinematic Chains of Machine Tools) 2d ed., rev. and enl. Moscow, Mashgiz, 1959. 363 p. Errata slip inserted. 10,000 copies printed. 3 p. Mi $1.80, ph $1.80

BR-SOV/2981
Petrov, Georgiy L'vovich, and Nikolay Grigor'yevich Burov
OBORUDOVANIYE I TEKHNOLOGIYA GAZOVOY SVARKI I REZKI (Equipment and Methods for Gas Welding and Cutting) Moscow, Mashgiz, 1959. 263 p. Errata slip inserted. 17,000 copies printed. 5 p. Mi $1.80, ph $1.80

BR-SOV/2982
Nesmelov, Aleksey Fedorovich, and Nina Andreyevna Avdonina
ALMAZNYYE INSTRUMENTY V MASHINOSTROYENII (Diamond Tools in Machine Building) Moscow, Mashgiz, 1959. 186 p. Errata slip inserted. 4,000 copies printed. 3 p. Mi $1.80, ph $1.80

BR-SOV/2983
Bukshteyn, Mikhail Abramovich
STAL'NYYE KANATY; SPRAVOCHNOYE RUKOVODSTVO (Steel Wire Rope; Reference Manual) Moscow, Metallurgizdat, 1959. 150 p. Errata slip inserted. 4,600 copies printed. 3 p. Mi $1.80, ph $1.80

BR-SOV/2985
Artobolevskiy, Ivan Ivanovich, Nikolay Ivanovich Levitskiy, and Sergey Aleksandrovich Cherkudinov
SINTEZ POLSKIKH MEKHANIZMOV (Synthesis of Planar Mechanisms) Moscow, Fizmatgiz, 1959. 1084 p. 10,000 copies printed. 5 p. Mi $1.80, ph $1.80

BR-SOV/2986
Meyerov, Mikhail Vladimirovich
SINTEZ STRUKTUR SISTEM AVTOMATICHESKOGO REGULIROVANIYA VYSOKOY TOCHNOSTI (Synthesis of Structures of High-precision Automatic Control Systems) Moscow, Fizmatgiz, 1959. 284 p. Errata slip inserted. 10,000 copies printed. 4 p. Mi $1.80, ph $1.80

BR-SOV/2987
Sushkin, Igor' Nikolayevich
OSNOVY TEPLOTEKHNIKI; UCHEBNIK DLYA SHKOL I KURSOV MASTEROV (Principles of Heat Engineering; Textbook for Schools and Courses for Foremen) Moscow, Metallurgizdat, 1958. 356 p. 16,500 copies printed. 6 p. Mi $1.80, ph $1.80

BR-SOV/2988
Nechayev, Georgiy Kuz'mich
TERMOSOPROTIVLENIYE V TEMPERATURNOM KONTROLE (Thermistors in Temperature Control) Kiyev, Gostekhizdat UkrSSR, 1959. 205 p. 2,500 copies printed. 2 p. Mi $1.80, ph $1.80

BR-SOV/2989
Lopoyan, Grach'ya Setrakovich
DIZELIST BUROVYKH SILOVYKH USTANOVOK (Diesel Operator of a Drilling Rig Power Unit) Leningrad, Gostoptekhizdat, 1959. 202 p. 4,700 copies printed. 2 p. Mi $1.80, ph $1.80

BR-SOV/2990
KRATKIY SVETOTEKHNICHESKIY SPRAVOCHNIK (Short Handbook on Lighting Engineering) Moscow, Gosenergoizdat, 1959. 79 p. 3,000 copies printed. 1 p. Mi $1.80, ph $1.80

BR-SOV/2992
RSFSR. Moskovskiy gorodskoy ekonomicheskiy rayon. Sovet narodnogo khozyaystva.
OKRASKA V ELEKTRICHESKOM POLE VYSOKOGO NAPRYAZHENIYA (Painting In A High Voltage Electric Field) Moscow, Tsentr. byuro tekhn. inform., 1958. 63 p. (Series: Dostizheniya nauki i tekhniki) Errata slip inserted. 4,500 copies printed. 3 p. Mi $1.80, ph $1.80

BR-SOV/2994
Kivilis, Solomon Shlemovich
TEKHNIKA IZMERENIYA PLOTNOSTI ZHIDKOSTEY I TVERDYKH TEL (Techniques of Measuring Densities of Liquids and Solids) Moscow, Standartgiz, 1959. 191 p. Errata slip inserted. 3,000 copies printed. 3 p. Mi $1.80, ph $1.80

BR-SOV/2995
Akademiya nauk SSSR. Otdeleniye khimicheskikh nauk. Komissiya po khromatografii
IONNYY OBMEN I YEGO PRIMENENIYE (Ion Exchange and Its Application) Moscow, Izd-vo AN SSSR, 1959. 318 p. Errata slip inserted. 4,000 copies printed. 2 p. Mi $1.80, ph $1.80

BR-SOV/2996
Akademiya nauk SSSR. Institut goryuchikh iskopayemykh
GENEZIS TVERDYKH GORYUCHIKH ISKOPAYEMYKH (Genesis Of Solid Fuels) Moscow, AN SSSR, 1959. 358 p. Errata slip inserted. 2,000 copies printed. 3 p. Mi $1.80, ph $1.80

BR-SOV/2997
Uvarov, Georgiy Vasil'yevich
RAZVITIYE KHIMICHESKOY PROMYSHLENNOSTI V 1959-1965 GODAKH (Development of the Chemical Industry Between 1959 and 1965) Moscow, Izd-vo "Znaniye," 1959. 15 p. (Series: Vsesoyuznoye obshchestvo po rasprostraneniyu politicheskikh i nauchnykh znaniy, Seriya IV, 1959, no. 26) 47,500 copies printed. 1 p. Mi $1.80, ph $1.80

BR-SOV/2998
Vasil'yev, Mikhail Vasil'yevich
PUTESHESTVIYA V KOSMOS (Space Travel) 2d ed., rev. and enl. [Moscow] Izd-vo "Sovetskaya Rossiya," 1958. 245 p. 30,000 copies printed. 3 p. Mi $1.80, ph $1.80

BR-POL/2999
Thor, Janusz
PODROZE POZA ZIEMIE; OPOWIESCI Z DAWNYCH CZASOW, OSIAGNIECIA DNIA DZISIEJSZEGO, PLANY NA PRZYSLOSC (Space Travel; Stories from the Past, Achievements of Today, and Plans for the Future) Warsaw, Panstwowe wydawnictwa techniczne, 1959. 151 p. 5,253 copies printed. 3 p. Mi $1.80, ph $1.80

BR-SOV/3001
Aluker, Shel Monosovich
SOVREMENNYYE ELEKTROIZMERITEL'NYYE PRIBORY (Modern Electrical Measuring Instruments) Moscow, Trudrezervizdat, 1958. 192 p. (Series: Biblioteka Molodogo rabochego) 5,000 copies printed. 3 p. Mi $1.80, ph $1.80

BR-YUG/3002
Vidmar, Milan

PROBLEMI RAZPETINE V ELEKTRICNEM DALJNOVODU (Span Problems in Overhead Transmission Lines) Ljubljana, Slovenska akademija znanosti in umetnosti v Ljubljani, 1959. 68 p. (Series: Slovenska akademija znanosti in umetnosti. Razred za matematicne, fizikalne in tehnicne vede. Dela [No.] 4) (Series: Slovenska akademija znanosti in umetnosti. Institut za elektrisko gospodarstvo. [Dela, No.] 2) 1,000 copies printed. 2 p. Mi $1.80, ph $1.80

BR-SOV/3004

Zhukov, Aleksandr Konstantinovich

ELEKTROOBORUDOVANIYE VTORICHNOY KOMMUTATSII I YEYE MONTAZH (Control System Equipment and Its Installation) 2nd ed. rev. Moscow, Gosenergoizdat, 1958. 255 p. 25,000 copies printed. 5 p. Mi $1.80, ph $1.80

BR-SOV/3005

Gorfman, A. I. and A. R. Dembo

AVTOMATIKA V STROITEL'STVE (Automation in Construction Works) Leningrad, Gosstroyizdat, 1959. 183 p. 9,000 copies printed. 2 p. Mi $1.80, ph $1.80

BR-SOV/3006

Malinin, Roman Mikhaylovich

KONDENSATORY I SOPROTIVLENIYA (Capacitors and Resistors) Moscow, Voyen. izd-vo M-va obor. SSSR, 1959. 174 p. No. of copies printed not given. 3 p. Mi $1.80, ph $1.80

BR-SOV/3007

Strashkevich, Aleksey Mikhaylovich

ELEKTRONNAYA OPTIKA ELEKTROSTATICHESKIKH POLEY NE OBLADAYUSHCHIKH OSEVOY SIMMETRIYEY (Electron Optics of Electrostatic Fields Without Axial Symmetry) Moscow, Fizmatgiz, 1959. 251 p. 6,000 copies printed. Ed.: V. Ya. Dubnova; Tech. Ed.: S. S. Gavrilov. 2 p. Mi $1.80, ph $1.80

BR-SOV/3008

Aseyev, Boris Pavlovich

FAZOVYYE SOOTNOSHENIYA V RADIOTEKHNIKE (Phase Relationships in Radio Engineering) 3rd ed., enl. Moscow, Svyaz'izdat, 1959. 304 p. 11,000 copies printed. 2 p. Mi $1.80, ph $1.80

BR-SOV/3011

Vsesoyuznoye astronomo-geodezicheskoye obshchestvo

BYULLETEN', NO. 25/32/ (Bullentin of the All-Union Astronomical and Geodetic Society, Nr 25/32/) Moscow, Izd-vo AN SSSR, 1959. 50 p. 1,500 copies. 2 p. Mi $1.80, Ph $1.80

BR-SOV/3012

Akademiya nauk SSSR. Morskoy gidrofizicheskiy institut

FIZIKA MORYA (Physics of the Sea) Moscow, Izd-vo AN SSSR, 1959. 95 p. (Series: Its: Trudy, Vol 17) Errata slip inserted. 1,300 copies printed. 2 p. Mi $1.80, ph $1.80

BR-SOV/3014

Butalov, Vladimir Aleksandrovich

TEKHNOLOGIYA METALLOV (Production and Processing of Metals) 2nd ed., rev. and enl. Moscow, Metallurgizdat, 1959. 502 p. Errata slip inserted. 31,500 copies printed. 9 p. Mi $1.80, ph $1.80

BR-SOV/3016

Akademiya nauk SSSR. Laboratoriya sistem peredachi informatsii

PROBLEMY PEREDACHI INFORMATSII. VYP. 1: POSTROYENIYE SKHEM I SETEY SVYAZI. (Problems of Information Transmission. Nr. 1: Design of Communications Circuits and Networks) Moscow, Izd-vo AN SSSR, 1959. 163 p. Errata slip inserted. 2,000 copies printed. 4 p. Mi $1.80, ph $1.80

BR-SOV/3017

Momot, Yevgeniy Grigor'yevich

GENERATOR S SHUNTIRUYUSHCHIM DIODOM I YEGO PRIMENENIYE (Oscillator With a By-Pass Diode and Its Application) Moscow, Gosenergoizdat, 1959. 155 p. 15,000 copies printed. 4 p. Mi $1.80, ph $1.80

BR-SOV/3019

Mashinoeksport, Vsesoyuznoye ob'yedineniye

KATALOG SPRAVOCHNIK, TOM. 1: ELEKTRICHESKIYE MASHINY (Catalog and Reference Manual, Vol. 1: Electrical Machines) Moscow, [n. d.] 304 p. Number of copies printed not given. 4 p. Mi $1.80, ph $1.80

BR-SOV/3023

Ippelitov, Georgiy Mikhaylovich

ABRAZIVNYYE INSTRUMENTY I IKH EKSPLUATATSIYA (Abrasive Tools and Their Use) Moscow, Mashgiz, 1959. 254 p. 7,000 copies printed. 4 p. Mi $1.80, ph $1.80

BR-SOV/3024

Povolotskiy, David Yakovlevich, and Aleksandr Nikolayevich Morozov

VODOROD I FLOKENY V STALI (Hydrogen

and Flakes in Steel) Moscow, Metallurgizdat, 1959. 182 p. Errata slip inserted. 2,800 copies printed. 2 p. Mi $1.80, ph $1.80

BR-SOV/3025
USSR. Komitet standartov, mer i izmeritel'nykh priborov
PRIBORY TEPLOENERGETICHESKOGO KONTROLYA (Instruments Used in Heat-power Control) Official ed. Moscow, 1959. 478 p. (Series: USSR. Gosudarstvennyye standarty) Errata slip inserted. 5,000 copies printed. 3 p. Mi $1.80, ph $1.80

BR-SOV/3026
Grinilev, Lev Solomonovich
O KIBERNETIKE (On Cybernetics) Moscow, Izd-vo "Znaniye," 1959. 30 p. (Series: Vsesoyuznoye obshchestvo po rasprostraneniyu politcheskikh i nauchnykh znaniy. Seriya IV, 1959, No. 28) 55,000 copies printed. 2 p. Mi $1.80, ph $1.80

BR-SOV/3030
Leningrad. Tsentral'naya aerologicheskaya observatoriya
NEKOTORYYE VOPROSY FIZIKI OBLAKOV (Some Problems in Cloud Physics) Moscow, Gidrometeoizdat (otd.) 1959. 94 p. (Series: Its: Trudy, vyp. 30) 650 copies printed. 2 p. Mi $1.80, ph $1.80

BR-SOV/3033
Kizel'shteyn, V. Ya.
PRIMENENIYE KHIMII V OBRABOTKE METALLOV (Application of Chemistry in Metal Finishing) [Leningrad] Lenizdat, 1959. 174 p. 3,000 copies printed. 2 p. Mi $1.80, ph $1.80

BR-SOV/3038
Adamov, Pavel Nikolayevich
SLUZHBA POGODY (Weather Service) 2d ed. Leningrad, Gidrometeoizdat, 1959. 43 p. 10,000 copies printed. 1 p. Mi $1.80, ph $1.80

BR-SOV/3039
Chernyak, Konstantin Isaakovich
EPOKSIDNYYE KOMPAUNDY I IKH PRIMENENIYE (Epoxy Compounds and Their Application) Leningrad, Sudpromgiz, 1959. 132 p. Errata slip inserted. 3,800 copies printed. 2 p. Mi $1.80, ph $1.80

BR-SOV/3051
Bonch-Osmolovskaya, Natal'ya Aleksandrovna
ATOMNYY FOTOEFFEKT V OBLASTI δ-LUCHEY (Atomic Photoelectric Effect in the Gamma-ray Range) Moscow, AN SSSR, 1959. 48 p. Errata slip inserted. 950 copies printed. 1 p. Mi $1.80, ph $1.80

BR-SOV/3052
Akademiya nauk Armyanskoy SSR. Institut tonkoy organicheskoy khimii.
SINTEZY GETEROTSIKLICHESKIKH SOYEDINENIY, VYP. 3 (Synthesis of Heterocyclic Compounds, Nr. 3) Yerevan, Izd-vo AN Armyanskoy SSR, 1958. 89 p. 2,000 copies printed. 3 p. Mi $1.80, ph $1.80

BR-SOV/3054
Deryagin, Boris Vladimirovich, and Sergey Maksimovich Levi
FIZIKO-KHIMIYA NANESENIYA TONKIKH SLOYEV NA DVIZHUSHCHUYUSYA PODLOZHKU (Physics and Chemistry of the Application of Thin Coatings to Moving Film Bases) Moscow, Izd-vo AN SSSR, 1959. 207 p. Errata slip inserted. 4,000 copies printed. 3 p. Mi $1.80, ph $1.80

BR-SOV/3055
Kashpur, Yakov Nikolayevich and Anatoliy Fedorovich Zakhar'in
GEOTERMICHESKIYE USLOVIYA YUGO-ZAPADNOY CHASTI DONBASSA (Geothermal Conditions of the Southwestern Part of the Donets Basin) Moscow, Ugletekhizdat, 1958. 114 p. 1,500 copies printed. 2 p. Mi $1.80, ph $1.80

BR-SOV/3056
Al'tshuler, Anatoliy Yevgen'yevich, Petr Ivanovich Korotkov, Vasiliy Leonidovich Kazanskiy, and Nikolay Mikhaylovich Gerasimenko
PROIZVODSTVO SMAZOCHNYKH MASEL IZ SERNISTYKH NEFTEY (Producing Lubricating Oils From Sulfurous Crudes) Moscow, Gostoptekhizdat, 1959. 189 p. Errata slip inserted. 4,200 copies printed. 3 p. Mi $1.80, ph $1.80

BR-SLOV/3057
Sevcov, Ivan,
OCHRANA PROTI BLESKOM (Protection Against Lightning) Bratislava, Slovenske Vydatelstvo Technickej Literatury, 1959. 181 p. 1,700 copies printed. 4 p. Mi $1.80, ph $1.80

BR-SOV/3058
Sobolevskiy, Anatoliy Georgiyevich
IMPUL'SNAYA TEKHNIKA (Pulse Techniques) Moscow, Gosenergoizdat, 1958. 167 p. (Series: Masovaya radiobiblioteka, vyp. 308) 65,000 copies printed. 2 p. Mi $1.80, ph $1.80

BR-SOV/3059
But, A. I.
DISKOVYY ELEKTRICHESKIY RAZDELITEL'; PYLEULAVLIVANIYE, FRAKTSIONIROVANIYE, SEPARATSIYA I TERMOOBRABOTKA RAZLICHNYKH MATERIALOV V ELEKTRICHESKOM POLE. (Electric Disk Separator; Dust Collecting, Fractionation, Separation and Heat Treatment of Various Materials in an Electric Field) Moscow, Gosstroyizdat, 1959. 86 p. 3,000 copies printed. 2 p. Mi $1.80, ph $1.80

BR-SOV/3060
Roginskiy, Vadim Nikolayevich
ELEMENTY STRUKTURNOGO SINTEZA RELEYNYKH SKHEM UPRAVLENIYA (Elements of Structural Synthesis of Relay Control Circuits) Moscow, AN SSSR, 1959. 167 p. Errata slip inserted. 4,000 copies printed. 4 p. Mi $1.80, ph $1.80

BR-SOV/3067
Moscow. Tsentral'nyy institut prognozov
VOPROSY GIDROLOGICHESKIKH PROGNOZOV (Problems in Hydrological Forecasting) Moscow, Gidrometeoizdat (otd.) 1959. 73 p. (Series: Its: Trudy, vyp. 90) 860 copies printed. 2 p. Mi $1.80, ph $1.80

BR-CZECH/3069
Ruzicka, Jaroslav, and Zdenek Sigut
JADERNA ENERGIE V TECHNICE (Industrial Use of Nuclear Power) [Prague] Statni nakladatelstvi technicke lit-ry, 1959. 95 p. 4,200 copies printed. 2 p. Mi $1.80, ph $1.80

BR-SOV/3072
Bondar', Mikhail Pavlovich, Aleksandr Yakovlevich Lopata, and Mikhail L'vovich Orlikov
TOKARNYYE AVTOMATY I POLUAVTOMATY (Automatic and Semiautomatic Lathes) Kiyev, Mashgiz, 1959. 450 p. 30,000 copies printed. 3 p. Mi $1.80, ph $1.80

BR-SOV/3073
Lyubimov, Valentin Mikhaylovich, Viktor Ivanovich Ostrogorskiy, and Mikhail Semenovich Shlionskiy
SKREBKOVYYE RAZGRUZOCHNYYE MASHINY (Scraper-type Unloading Machines) Moscow, Metallurgizdat, 1959. 44 p. 2,700 copies printed. 2 p. Mi $1.80, ph $1.80

BR-SOV/3082
Nasledov, Dmitriy Nikolayevich
POLUPROVODNIKI (Semiconductors) Moscow, Izd-vo "Znaniye," 1959. 44 p. (Series: Vsesoyuznoye obshchestvo po rasprostraneniyu politicheskikh i nauchnykh znaniy. Seriya IV, 1959, no. 30/31) 51,500 copies printed. 2 p. Mi $1.80, ph $1.80

BR-SOV/3085
Demyantsevich, Vladimir Petrovich, and Semen Isaakovich Dumov
TEKHNOLOGIYA ELEKTRICHESKOY DUGOVOY SVARKI (Technique of Electric-arc Welding) Moscow, Mashgiz, 1959. 360 p. 20,000 copies. 3 p. Mi $1.80, ph $1.80

BR-SOV/3086
Galaktionova Nadezhda Andreyevna
VODOROD V METALLAKH (Hydrogen in Metals) Moscow, Metallurgizdat, 1959. 255 p. Errata slip inserted. 3,200 copies printed. 3 p. Mi $1.80, ph $1.80

BR-SOV/3090
Moscow. Aviatsionnyy tekhnologicheskiy institut
ISSLEDOVANIYE PROTSESSOV VYSOKOPROIZVODITEL'NOY OBRABOTKI METALLOV REZANIYEM (Analysis of High-productivity Metal-cutting Processes) Moscow, Oborongiz, 1959. 130 p. (Series: Its: Trudy, vyp. 38) 3,600 copies printed. 2 p. Mi $1.80, ph $1.80

BR-SOV/3093
Bronshteyn, Vladimir Markovich
SNIZHENIYE BRAKA V STALEPLAVIL'NOM PROIZVODSTVE (Reduction of the Number of Rejects in the Steelmaking Industry) Moscow, Metallurgizdat, 1959. 140 p. 3,500 copies printed. 2 p. Mi $1.80, ph $1.80

BR-SOV/3094
Yelistratov, Petr Savel'yevich
SVAROCHNYYE SVOYSTVA CHUGUNA (Welding Properties of Cast Iron) Moscow, Mashgiz, 1959. 145 p. Errata slip inserted. 5,000 copies printed. 2 p. Mi $1.80, ph $1.80

BR-SOV/3095
Gliner, Boris Moiseyevich
OPREDELENIYE MEKHANICHESKIKH I TEKHNOLOGICHESKIKH SVOYSTV METALLOV; KRATKOYE SPRAVOCHNOYE POSOBIYE (Determination of Mechanical and Manufacturing Properties of Metals; a Brief Manual) 2d ed., rev. and enl., Moscow, Mashgiz, 1959. 158 p. Errata slip inserted. 8,000 copies printed. 3 p. Mi $1.80, ph $1.80

BR-SOV/3097
Ris, Vladimir Fedorovich
RASCHET DISKOV TURBOMASHIN (Design of Turbomachine Disks) 2d ed., rev.,

Moscow, Mashgiz, 1959. 54 p. Errata slip inserted. Supplement of 18 charts. 3,000 copies printed. 2 p. Mi $1.80, ph $1.80

BR-SOV/3099
Tbilisi. Nauchno-issledovatel'skiy gidrometeorologicheskiy institut
TRUDY, VYP. 4 (Transactions of the Tbilisi Hydro-Meteorological Scientific Research Institute, No. 4) Leningrad, Gidrometeoizdat, 1959. 178 p. 1,500 copies printed. 2 p. Mi $1.80, ph $1.80

BR-SOV/3100
Akademiya nauk SSSR. Ural'skiy filial. Institut metallurgii
TRUDY, VYP. 4 (Transactions of the Institute of Metallurgy, Ural Branch, Academy of Sciences, USSR; No. 4) Sverdlovsk, 1958. 157 p. Errata slip inserted. 1,000 copies printed. 3 p. Mi $1.80, ph $1.80

BR-SOV/3112
Andreyevskiy, Mir Nikolayevich
KONSTRUIROVANIYE ELEMENTOV RADIOPEREDATCHIKOV, USTANAVLIVAYEMYKH NA PODVIZHNYKH OB"YEKTAKH (Component Design of Radio Transmitters for Mobile Use) Moscow, Oborongiz, 1959. 261 p. 22,500 copies printed. 2 p. Mi $1.80., ph $1.80

BR-SOV/3113
Gantmakher, Feliks Ruvimovich and Lev Mikhaylovich Levin
TEORIYA POLETA NEUPRAVLYAYEMYKH RAKET (Theory of Unguided Rocket Flight) Moscow, Fizmatgiz, 1959. 360 p. 8,000 copies printed. 5 p. Mi $1.80, ph $1.80

BR-SOV/3116
Pokrovskiy, Georgiy Iosifovich
NAUKA I TEKHNIKA V SOVREMENNYKH VOYNAKH (Science and Technology In Modern Warfare) 2nd ed., rev. and enl. Moscow, Voyenizdat, 1959. 137 p. (Series: Nauchno-populyarnaya biblioteka) 2 p. Mi $1.80, ph $1.80

BR-SOV/3117
Akademiya nauk SSSR
PERVYYE FOTOGRAFII OBRATNOY STORONY LUNY (First Photographs of the Reverse Side of the Moon) Moscow, Izd-vo AN SSSR, 1959. 33 p. 5,000 copies printed. 2 p. Mi $1.80, ph $1.80

BR-SOV/3125
Likhter, Yakov Iosifovich
IZMERENIYE ATMOSFERNYKH RADIOPOMEKH (Measuring Atmospheric Radio Interferences) Moscow, Svyaz'izdat, 1959. 27 p. (Series: Lektsii po tekhnike svyazi) Errata slip inserted. 10,300 copies printed. 2 p. Mi $1.80, ph $1.80

BR-SOV/3140
Akademiya nauk Ukrainskoy SSR. Institut fiziki
FOTOELEKTRICHESKIYE I OPTICHESKIYE YAVLENIYA V POLUPROVODNIKAKH; TRUDY PERVOGO VSESOYUZNOGO SOVESHCHANIYA PO FOTOELEKTRICHESKIM I OPTICHESKIM YAVLENIYAM V POLUPROVODNIKAKH, G. KIYEV, 20-26 NOYABRYA 1957 g (Photoelectric and Optical Phenomena in Semiconductors; Transactions of the First Conference on Photoelectric and Optical Phenomena in Semiconductors...) Kiyev, 1959. 403 p. 4,000 copies printed. 8 p. Mi $1.80, ph $1.80

BR-SOV/3141
Orlov, Vasiliy Ivanovich, and Viktor Nikolayevich Trostnikov
SINKHROFAZOTRON NA 10 MILLIARDOV ELEKTRONOVOL'T (A 10 Bev Proton Synchrotron) Moscow, Izd-vo "Znaniye," 1959. 31 p. (Series: Vsesoyuznoye obshchestvo po rasprostraneniyu politicheskikh i nauchnykh znaniy. Seriya IX, 1959, no. 22) 37,000 copies printed. 2 p. Mi $1.80, ph $1.80

BR-SOV/3143
Krasin, Andrey Kapitonovich,
ATOMNYYE ELEKTROSTANTSII; RAZVITIYE YADERNOY ENERGETIKI ZA PYAT' LET. (Atomic Electric Power Stations; Development of Nuclear Power Engineering for the Last Five Years) Moscow, Izd-vo "Znaniye," 1959. 22 p. (Vsesoyuznoye obshchestvo po rasprostraneniyu politicheskikh i nauchnykh znaniy. Seriya IX, 1959, no. 25) 37,000 copies printed. 2 p. Mi $1.80, ph $1.80

BR-SOV/3146
Kolotygin, Igor' Nikolayevich
PERENOSNYY MAGNITOFON (Portable Tape Recorder) Moscow, Gosenergoizdat, 1958. 23 p. (Series: Massovaya radiobiblioteka, vyp. 314) 50,000 copies printed. 1 p. Mi $1.80, ph $1.80

BR-SOV/3171
Belyayev, Anatoliy Ivanovich, and Lidiya Alekseyevna Firsanova
ODNOVALENTNYY ALYUMINIY V METALLURGICHESKIKH PROTSESSAKH (Monovalent Aluminum in Metallurgical Processes) Moscow, Metallurgizdat, 1959. 142 p.

Errata slip inserted. 1,550 copies printed.
2 p. Mi $1.80, ph $1.80

BR-SOV/3182
Shchukin, Viktor Konstantinovich
SHTURM NEBA (Assault on the Sky) 2d ed., rev. Moscow, Fizmatgiz, 1959. 62 p. (Series:) Nauchno-populyarnaya biblioteka, vyp. 59)
50,000 copies printed. 1 p. Mi $1.80, ph $1.80

BR-SOV/3310
Mitskevych, Zoya Aleksandrovna
POLIMERNI MATERIALY TA IKH ZASTOSUVANNYA V TEKHNITSI (Polymers and Their Use In Industry) Kyyiv, 1959. 29 p. (Series: Tovarystvo dlya poshyrennya politychnykh i naukovykh znan' Ukrayins'koyi RSR. Ser. 7, no. 10) 2 p. Mi $1.80, ph $1.80

TRANSLATIONS IN PROCESS

ARTICLES ON RUBBER PUBLISHED IN 2ND HALF OF 1958.
Kauchuk i Rezina (USSR) 1959, v. 18, no. 6, p. 60-64.

CALCULATION OF WALL THICKNESS OF BOILERS AND PRESSURE VESSELS. (Zur Wandelickenberechnung von Dampfkesseln und Drucksehaltern).
Brennstoff-Warme-Kraft (West Germany) 1951, v. 3, p. 422-426

FIRST IN THE WORLD.
Krasnaya Zvezda (USSR) 1959, no. 183, p. 1.

NEW RECORD OF AVIATORS.
Gudok (USSR) 1959, no. 183.

QUALITY CHECK ON FUEL AND LUBRICATION MATERIALS.
Mon. Kontrol' Kachestva Goryuche-Smazochnykh Materialov, 12p.

REVIEW AND BIBLIOGRAPHY, ARTICLES ON RUBBER PUBLISHED DURING FIRST HALF OF 1958.
Kauchuk i Rezina (USSR) 1959, v. 18, no. 5, p. 58-64.

SCIENCE CONCERNING GLASS AT THE 8TH MENDELEYEV CONGRESS.
Steklo i Keramika (USSR) 1959, v. 16, no. 5, p. 1-4.

Abramov, A. I.
A MINIATURE ^{3}He IONISATION CHAMBER WITH PRESSURES UP TO 4 atm.
Prib[ory i] Tekh[nika] Eksp[erimenta] (USSR) 1959, no. 4, p. 56-57.

Andreyev, K. K.
PHYSICAL HEAT STABILITY OF CRYSTALS OF SOME EXPLOSIVE SUBSTANCES.
Nauchnyye Doklady Vysshei Shkoly. Khimiya-Khimicheskaya Tekhnologiya (USSR) 1959, no. 2, p. 244-247.

Baramboym, N. K.
PROBLEMS IN MECHANOCHEMISTRY OF HIGH POLYMERS.
Uspekhi Khimii (USSR) 1959, v. 28, no. 7, p. 877-886.

Bay, Y.
SEPARATION METHODS FOR USE IN ANALYSING MIXTURES OF THE MORE IMPORTANT FISSION PRODUCTS (REVIEW).
Zavodskaya Lab[oratoriya] (USSR) 1959, v. 25, p. 917-926.

Blumova, V. and Hrdlioka, J.
RESOLVING POWER OF A PHOTOGRAPHIC EMULSION.
Revue d'Optique et Instrumentale (France) 1957, no. 6, p. 261-271.

Bogolyubov, N. M.
PROBLEMS OF DYNAMIC THEORY IN STATISTICAL PHYSICS.
Mono. pub. by Federal Publishing House for Technical Theoretical Literature, Moscow, 1946.

Bogoyavlenskiy, S. G. and Mertts, A. A.
Pchelovodstvo (USSR) 1957, v. 34, no. 8, p. 42-46.

Bohn, L., Lindhardt, F., and Oberst, H.
PROGRESS IN DEVELOPMENT OF OSCILLATION-DAMPENING MATERIAL.
Mono. 25p.

Boytsov, V.
AUTOMATION: A VITAL MATTER FOR EVERY ENTERPRISE.
Pravada[Moscow] 1959, no. 169, p. 2.

Bring, A. and Kadlecek, Fn.
DETERMINATION OF HYDROXYL GROUPS IN EPOXIDE RESINS (Zur Bestimmung von Hydroxylgruppen in Epoxydharzen).
Plaste und Kautschuk (Germany) 1958, v. 5, no. 2, p. 43-48.

Buzuk, V. V.
DETERMINATION OF DIMENSIONS OF LEVELLED TRIAXIAL ELLIPSOID ACCORDING TO GRAVIMETRIC DATA OF NORTHERN HEMISPHERE.
Izvestiya Vysshikh Uchebnykh Zavedeniy. Goedeziya i Aerofotos"yemka (USSR) 1959, no. 4, p. 25-33.

Chauveau, P.
THE NUCLEAR SHIPS OF THE RIJEKA CONFERENCE (Les Navires Nucléaires à la Conference de Rijeka).

la Semaine Juridique (France) 1959, no. 46.

Chertkov, Ya. B.
CORROSIVE ACTIVITY OF HYDROCARBON FUELS IN PRESENCE OF ELEMENTARY SULFUR.
Khimiya i Tekhnologiya Topliv i Masel (USSR) 1958, v. 7, p. 62-66.

Danishevskiy, S. K.
IMMERSION THERMOCOUPLES.
Zavodskaya Lab[oratoriya] (USSR) 1958, v. 24, no. 12, p. 1470-1475.

Dmitriev, A. B. and others.
BORON IONISATION CHAMBERS.
Prib[ory i] Tekh[nika] Eksp[erimenta] (USSR) 1959, no. 3, p. 59-62.

Dogramadzshi, M. F.
RESEARCH ON THE FLOW OF ELECTRIC CURRENT OF THE MODEL OF AN ELECTROLYZER.
Tsvetnyye Metally (USSR) 1959, no. 8, p. 44-50.

Dubrovin, G. I. and others.
ACTION OF IONIZING RADIATIONS ON CABLE RUBBERS.
Kauchuk i Rezina (USSR) 1959, v. 18, no. 7, p. 8-12.

Aleksandrov, S. G. and Fedorov, R. Ye.
SOVIET SPUTNIKS AND COSMIC ROCKETS.
Mono. Sovetskiye Sputniki i Kosmicheskaya Raketa, Moscow, 1959, 232p.

Galil-ogly, F. A. and others.
METAL FLUORIDES AS FILLERS FOR RUBBERS MADE OF FLUORINE COPOLYMERS.
Kauchuk i Rezina (USSR) 1959, v. 18, no. 7, p. 31-36.

Gefter, V. A., Levitanskaya, P. B. and Nicolsky, B. A.
Meditsinskaya Parazitologiya i Parazitarnye Bolezni (USSR) 1957, v. 26, p. 347-350.

Gofman, I. L.
AT MOSCOW TIRE FACTORY.
Kauchuk i Rezina (USSR) 1959, v. 18, no. 4, p. 53.

Govnev, T. N., Terentiyeva, M. V., and Parmon, K. N.
Akad[emiya] Navuk BSSR [Minsk]. Izvest[iya] 1949, no. 1, p. 93.

Gurov, V.
SEMICONDUCTORS IN TECHNOLOGY AND LIFE.
Mono. Poluprovodniki v Tekhnike i v Bytu, p. 82-105.

Gutsevich, A. V.
Mono. Vsesoyuzn. Wnt. [sic] Obshcheye Chtenniya Pamyati Kholodkovskogo, 1954-55, 1956, p. 55-60.

Ivanov, K. V.
Zashchita Rastenii ot Vrediteley i Bolezney (USSR) 1958, v. 3, no. 1, p. 9-11.

Ivanova, V. V.
USE OF THE REACTION $^{18}O(\alpha, n)^{21}Ne$ FOR DETERMINING THE CONCENTRATIONS OF α ACTIVE MATERIALS IN AQUEOUS SOLUTIONS.
Atomnaya Energ[iya] (USSR) 1959, v. 7, no. 2, p. 166-168.

Kalesnikov, P. A.
Uspekhi Sovremennoy Biol[ogii] (USSR) 1959, v. 47, p. 362.

Kaluzhenina, K. F. and others.
PROPERTIES OF MIXTURES AND VULCANIZED RUBBERS ON BROMOBUTYL-CAOUTCHOUC BASE.
Kauchuk i Rezina (USSR), v. 18, no. 7, p. 13-18.

Kanakhovich, Y. Y. and others.
A NEUTRON SPECTROMETER WITH A FLAT CRYSTAL.
Prib[ory i] Tekh[nika] Eksp[erimenta] (USSR) 1959, no. 3, p. 26-31.

Kaplun, T. S.
CONFERENCE IN SCIENTIFIC-RESEARCH INSTITUTE OF TIRE MANUFACTURE INDUSTRY.
Kauchuk i Rezina (USSR) 1959, v. 18, no. 4, p. 49-50.

Kaplunov, M. Ya.
RADIATIONAL VULCANIZATION OF AUTOMOBILE TIRES.
Kauchuk i Rezina (USSR) 1959, v. 18, no. 6, p. 48-50.

Karatkin, Ye. S.
THE MECHANISM OF BRITTLE FRACTURE IN STEEL.
Svaroch[noye] Proiz[vodstvo] (USSR) 1958, no. 6, p. 24-28.

Kartsev, V. N. and Fomicheva, M. M.
PROPERTIES OF VULCANIZED RUBBERS FORM SILOXANE CAOUTCHOUC CONTAINING VINYL GROUPS.
Kauchek u Rezina (USSR) 1959, v. 18, no. 4, p. 3-7.

Kashin, V.
BOOKS ON RUBBER PUBLISHED IN LAST 30 YEARS.
Kauchuk i Rezina (USSR) 1959, v. 18, no. 7, p. 61-63.

Kazanskiy, Y. A.
TRANSFORMING PULSE-HEIGHT DISTRIBUTIONS INTO ENERGY SPECTRA.
Prib[ory i] Tekh[nika] Eksp[erimenta] (USSR) 1959, no. 4, p. 32-36.

Khomyakov, V. G. and others.
ELECTROCHEMICAL METHODS FOR SYNTHESIZING CERTAIN INITIAL MATERIALS FOR HIGH POLYMERS.
Khimicheskaya Promyshlennost'(USSR) 1959, no. 4, p. 16-20.

Kogan, A. M. and others.
THE TISSUE DOSE FROM NEUTRON IRRADIATION.
Atomnaya Energ[iya] (USSR) 1959, v. 7, no. 4, p. 351-362.

Korshak, V. V.
INORGANIC HIGH MOLECULAR COMPOUNDS.
Uspekhi Khimii (USSR) 1959, v. 28, no. 7, p. 783-818.

Krasnosel'skiy, M. A. and Rutitskiy, Ya. B.
CONVERSE FUNCTIONS AND ORLICH SPACES.
Mono. Vypuklye Funktsii i Prostranstva Orlicha, Moscow, 1958, 271p.

Kravtsov, L. A. and Gruzinsky, V. V.
Akademiya Navuk BSSR [Minsk]. Doklady, 1957, v. 1, p. 103.

Krylova, N.
BULLENTIN OF MOSCOW TIRE FACTORY.
Kauchuk i Rezina (USSR) 1959, v. 18, no. 4, p. 62-63.

Kuz'minskiy, A. S. and Bass, S. I.
MENDELEYEV CONGRESS No. 8.
Kauchuk i Rezina (USSR) 1959, v. 18, no. 4, p. 47.

Lashko, N. F. and others
SOLDERING OF METALS.
Mono. Bayka Metallov Moscow, 1959, p. 344-357, 381-392, 421-424.

Ludwieg, F.
DETERMINING THE AGE OF NUCLEAR FISSION PRODUCTS IN THE ATMOSPHERE.
Atompraxis (West Germany) 1959, v. 5, no. 9, p. 339-342.

Mikhant'yev, B. and Yashunskaya, F.
CONCERNING THE PAMPHLET "PAST AND FUTURE OF ARTIFICIAL AND SYNTHETIC MATERIALS".
Kauchuk i Rezina (USSR) 1959, v. 18, no. 4, p. 61-62.

Mikhaylov, Ye.
EXCURSION INTO THE FUTURE.
Gudok (USSR) 1959, no. 161, p. 1.

Minakov, A. G. and others.
NEW TYPE OF HARDENED GLASS "STEKLOFON"
Steklo i Keramika (USSR) 1959, v. 16, no. 8, p. 21-22.

Molodenskiy, M. S.
PROBLEMS AND TASKS OF GEODETIC GRAVIMETRY.
Geodeziya i Kartografiya (USSR) 1959, no. 6, p. 50-56.

Nemilov, Y. A. and others.
A LINE-SHAPE DISTORTION FOUND WITH NaI (Te) CRYSTALS.
Prib[ory i] Tekh[nika] Eksp[erimenta] (USSR) 1959, no. 4, p. 72-73.

Nizovkin, V. K., Pervomaysky, G. S. and others.
Voyenno-Meditsinskiy Zhurnal (USSR) 1953, v. 3, p. 59-63.

Novikov, A. S. and others.
COLD VULCANIZATION OF SILICON ORGANIC RUBBERS.
Kauchuk i Rezina (USSR) 1959 v. 18, no. 5, p. 16-20.

Oberth, H.
THE ELECTRICAL SPACE SHIP.
Mono. Wege zur Raumschiffahrt, Berlin, 1929, chap. 22, p. 409-423.

Oksent'yevich, L. A. and others.
RADIATION VULCANIZATION OF POLYDIMETHYLSILOXANIC RUBBER.
Kauchuk i Rezina (USSR) 1959, v. 18, no. 5, p. 21-26.

Oshchepkov, P. K.
"INTROSCOPY" (NON-DESTRUCTIVE TESTING) OF OPAQUE MATERIALS.
Zavodskaya Lab[oratoriya] (USSR) 1959, v. 25, no. 6, p. 684-689.

Parfenov, V.
NEW KINDS OF FUEL FOR JET ENGINES.
Sovetskaya Aviatsiya (USSR) 1957, no. 233, p. 2.

Petrishoheva, P. A. and Saf'yanova, V. M.
Zool[ogicheskiy] Zhur[nal] (USSR) 1956, v. 35, 12p.

Poplavskiy, R. P.
POTENTIAL DISTRIBUTION IN A SPHERICAL CAPACITATOR IN SATURATION CURRENT CONDITIONS.
Zhurnal Tekhnicheskoy Fiziki (USSR) 1950, no. 2, p. 149-159.

Popov, L. Ye.
ON PROBLEM OF EQUIVALENCY OF EFFECT OF VELOCITY AND TEMPERATURE OF DEFORMATION OF PROCESS OF PLASTIC STRAIN.
Izvestiya Vysshikh Uchebnykh Zavedeniy. Fizika, 1958, v. 1, no. 3, p. 91-99.

Prozorovskiy, Yu. N.
ELECTRON-RAY CODING TUBE.
Patent no. 116715, Class 21g, $^{13}_{21}$, Elektronnoluchevaya Kodiruyushchaya Trubka, p. 1-2.

R Remez, Ye. Ya.
GENERAL COMPUTATIONAL METHODS OF CHEBYSHEV APPROXIMATION.
Mono. Obshchey Vychislitel'nye Metody Chebyshevskogo Priblizheniya, Kiev, 1957, 454p.

Rogovin, Z. A.
NEW METHODS FOR MODIFYING PROPERTY OF CELLULOSE.
Uspekhi Khimii (USSR) 1959, v. 28, no. 7, p. 850-875.

Sandomirskiy, D. M. and others.
THERMOPHYSICAL CHARACTERISTICS OF LATEX FOAM, GEL AND SPONGE.
Kauchuk i Rezina (USSR) 1959, v. 18, no. 4, p. 13-16.

Savel'yev, V. Ya. and Kononenko, V. A.
INVESTIGATIONS OF SLOW NEUTRON COUNTERS.
Prib[ory] i Tekh[nika] Eksp[erimenta] (USSR) 1959, no. 1, p. 61-64.

Scheller, V.
THE 160 MWE OMR NUCLEAR POWER STATION.
Atom und Strom [sic] 1959, v. 5, no. 9, p. 71-77.

Shal'nov, V. A.
GRINDING AND POLISHING BLADES OF GAS TURBINE ENGINES.
Mono. Shlifovaniye i Polirovaniye Lopatok Gazoturbinnykh Dvigateley, Moscow, 1958, p. 3-100 and 288-307.

Shatalov, V. P. and others
SYNTHESIZING HYDROGEN PEROXIDE OF DIISOPROPYLBENZENE AND TESTING ITS TRIGGERING PROPERTIES OF DRIVING BUTADIENE RUBBER.
Khimicheskaya Promyshlennost' (USSR) 1959, no. 4, p. 13-15.

Shaumyan, G. A.
AUTOMATION OF PRODUCTION PROCESS IN MACHINE CONSTRUCTION.
Mono. Avtomatizatsiya Proizvodstvennykh Protsessov v Mashinostroyenii, 1958, p. 81-93, 106-110.

Shlvck, A. A.
Akad[emiya] Navuk BSSR [Minsk]. Doklady, 1957, v. 1, p. 121.

Shostakovskiy, M. F.
SILANOLS.
Uspekhi Khimii (USSR) 1959, v. 28, no. 6, p. 741-771.

Siokawa, T. and Yagi, M.
STUDY ON THE SEPARATION OF FISSION PRODUCTS. PREPARATION OF CARRIER-FREE RADIOACTIVE CESIUM (Etude sur la Separation des Produits de Fission. Preparation de Cesium Radioactif Exempt d'Entraineur).
[Bunseki Kagaku] (Japan) 1956, v. 5, no. 4, p. 220-221.

Solonimskiy, G. L. and others.
MENDELEYEV CONGRESS NO. 8 AND DOMESTIC POLYMER SCIENCE.
Vysokomolekulyarnyye Soyedineniya (USSR) 1959, no. 7, p. 1112-1125.

Sokolov, N. and Levin, A.
ELECTROLYTIC WORKING OF METAL CERAMIC DIES.
Zhurnal Prikladnoy Khimii (USSR) 1959, v. 32, no. 8, p. 1774-1781.

Sorokin, L. S.
A GAS-DISCHARGE SCINTILLATION COUNTER.
Prib[ory i] Tekh[nika] Eksp[erimenta] (USSR) 1959, no. 3, p. 57-58.

Stavisskiy, Yu. Ya. and others.
EXPERIMENT IN OBTAINING REACTION THRUST IN LABORATORY MODEL OF AN ION DRIVER.
Zhurnal Tekhnicheskiy Fiziki (USSR) 1959, v. 29, no. 8, p. 962-966.

Terenin, A. N.
Acta Physiocochimica, U. R. S. S. 1943, v. 18, p. 210.

Trubnikov, B. A.
MAGNETIC EMISSION OF HIGH TEMPERATURE PLASMA.
Mono. Magnitoye Izlucheniye Vysokotemperaturnoy Plazmy, Moscow, 1958, 98p.

Tyrin, A.
BREATHING BECAME DIFFICULT.
Sovetskaya Aviatsiya (USSR) 1959, no. 160, p. 2.

Vatset, P. I. and others.
A NEUTRON DETECTOR WITH CONSTANT SENSITIVITY TO NEUTRONS WITH ENERGIES BETWEEN 0.025 AND 14 MEV.
Atomnaya Energ[iya] (USSR) 1959, no. 2, p. 172-173.

Vladimirov, A. M. and others.
SYNTHESIS OF TRANS-1, 4 POLYSISOPRENE.
[Kauchuk i Rezina] (USSR) 1959, v. 18, no. 7, p. 6-7.

Zhavoronkov, N. M.
MENDELEYEV CONGRESS ON GENERAL AND APPLIED CHEMISTRY, NO. 8.
Khimicheskaya Promyshlennost' (USSR) 1959, no. 4, p. 1-10.

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Akademiya Nauk URSR, Kiev. Laboratoriya Hidravlichnykh Mashyn. Sbornik Trudov	
1956, no. 6, p. 74-85	527
Akademiya Nauk URSR, Kiev, Visnyk,	
1959, v. 30, no. 9, p. 3-7	498
Akademiya Nauk Uzbekskoy SSR, Tashkent. Izvestiya. Seriya Fiziko-Matematicheskikh Nauk,	
1957, no. 3, p. 87-98	499
Akademiya Navuk BSSR, Minsk. Izvestiya,	
1953, no. 3	528
Akusticheskiy Zhurnal (USSR)	
1959, v. 5, no. 2, p. 255-256	538
1959, v. 5, no. 5, p. 504-505	538
Alluminio (Italy)	
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1955, v. 67, no. 23, p. 740-741	484
1956, v. 68, no. 1, p. 13-20	488
Annales de Zootechnie (France)	
1956, v. 5, no. 1, p. 12-19	471
Annales Textiles (France)	
1955, no. 4, p. 12ff	523
Apparecchio "F'AG Kugelfischer" per la Prova dei Grassi Lubrificanti, Milan,	
1955, p. 50-54	519
Aptechnoye Delo (USSR)	
1958, v. 7, no. 2, p. 31-33	480
Archiv für das Eisenhüttenwesen (West Germany)	
1959, v. 30, Sep, p. 553-564	530
1959, v. 30, Oct.	530
Archives des Maladies de l'Appareil Digestif et des Maladies de la Nutrition (France)	
1955, v. 44, no. 6, suppl. p. 99-115	477
1955, v. 44, no. 6, suppl. p. 117-131	479
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1958, v. 5, no. 2, p. 130-134	537

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Biofizika (USSR)	
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1958, v. 39, p. 84-86	520
1958, v. 39, p. 141-145	520
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Byulleten' Nauchno-Tekhnicheskoy Informatsii po Agronomicheskoy Fizike (USSR)	
1956, no. 1, p. 5-14	470
1956, no. 1, p. 18-20	470
1957, no. 3, p. 11-17	470
Byulleten' Nauchnoy Informatsii. Trud i Zarabotnaya Plata (USSR)	
1959, no. 3	525
Byulleten' Tsentral'nyy Institut Informatsii Tsvetnoy Metallurgi. Byulleten' (USSR)	
1958, no. 7, p. 32	532
Centre Nucleaire de Marcoule Caissons et Beton Precontraint des Reacteur,	
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Centro di Studi Nucleari di Ispra	
CNI-24, 170p.	B-2
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1957, v. 29, p. 6-16	B-2
Chemisches Forschungsinstitut der Wirtschaft Osterreichs. Mitteilungen (Austria)	
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1959, v. 41, no. 8, p. 741-748	524
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Colloque International sur l'Electronique Nucleaire, Paris, 1958. Comptes Rendus	
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1959, v. 2, p. 377-378	B-3
Commissariat a l'Energie Atomique. Rapport (France)	
1951, no. 87	489
Conference on Piston Engines, Moscow,	
1956, Proceedings	513
Eidgenossische Technische Hochschule Zurich. Institut fur Aerodynamik. Mitteilungen (Switzerland)	
1943, no. 8, p. 44-49	527
Elektronische Rechenanlagen (West Germany)	
1959, v. 1, no. 3, p. 127-133	525
Elektrosvyaz' (USSR)	
1958, v. 12, no. 8, p. 3-80	505
1958, v. 12, no. 9, p. 3-80	505
1958, v. 12, no. 10, p. 3-80	505
1958, v. 12, no. 11, p. 3-80	505
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1958, v. 51, no. 1/2, p. 73-74	504
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Ergebnisse der Inneren Medizin und Kinderheilkunde (West Germany)	
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Faserforschung und Textiltechnik (Germany)	
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Financial and Operational Plans of Soviet Equipment and Repair Stations.	
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Fizika Metallov i Metallovedeniye (USSR)	
1958, v. 6, no. 2, p. 193-385	528
1958, v. 6, no. 6, p. 919-923	528
Fizika Plasmy, v. 3, pub. by Academy of Sciences, USSR,	
1958	536
Fizika Plazmy, v. 4, pub. by Academy of Sciences, USSR,	
1958	542
Fiziologicheskiy Zhurnal SSSR,	
1959, v. 45, no. 6, p. 633-745	475
Forschungsinstitut und Probieramt fur Edelmetalle, Schwabisch-Gmund. Mitteilungen (Germany)	
1938, v. 12, no. 1/2, p. 1-9	532
1938, v. 12, no. 3, p. 17-29	532
Gazovaya Promyshlennost' (USSR)	
1956, no. 12, p. 7-9	504
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Gazzetta Chimica Italiana	
1959, v. 89, no. 3, p. 718-731	B-2

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Geodeziya i Kartografiya (USSR) 1959, no. 6, p. 61-67	497
Geologische Rundschan (West Germany) 1944, v. 34, no. 7/8, p. 545-694	497
Gigiyena i Sanitariya (USSR) 1957, v. 22, no. 1, p. 70-72	510
1957, v. 22, no. 9, p. 3-8	511
Gigiyena Truda i Professional'nyye Zabolevaniya (USSR) 1959, v. 3, no. 5, p. 7-15	480
Glavnaya Geofizicheskaya Obser-vatoriya. Trudy (USSR) 1957, v. 71, p. 72-93	B-6
Gluckauf (West Germany) 1958, v. 94, no. 3/4, p. 125-128	483
Helvetica Chimica Acta (Switzerland) 1954, v. 37, no. 4, p. 1336-1338	483
1958, v. 41, no. 6, p. 132-152	476
Holz-Zentralblatt (West Germany) 1954, v. 80, no. 136, p. 1602	513
Hungarian Technical Abstracts. Magyar Muszaki Lapszemle, 1959, v. 11, no. 4, p. 117-160	469
Hutnicke Listy (Czechoslovakia) 1958, v. 13, no. 3, p. 287-298	531
1959, v. 14, no. 1, p. 47-54	531
1959, v. 14, no. 8, p. 695-700	530
Hutnik (Czechoslovakia) 1957, v. 7, no. 4, p. 116-122	514
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Industria Mineraria d'Italia e d'Oltremare 1959, v. 10, no. 9	B-4
Industrie des Plastiques Modernes (France) 1958, v. 10, no. 6, p. 37-45	524
Ingenieur-Archiv (Germany) 1959, v. 27, no. 3, p. 137-152	526
Institut Pasteur Paris. Annales (France) 1950, v. 79, no. 4, p. 390-410	477
Inzhenerno Fizicheskiy Zhurnal (USSR) 1959, v. 11, p. 56-62	B-5
ISML Memorie e Rapporti 1958, ser. 9, no. 206	533
Ispol'zovaniya Solnechnoy Energiy. Moscow, 1959, 236p.	B-7
Issledovaniye Mekhanizma Zemletryasenii, Moscow, 1957, v. 4, no. 40	B-1
Izmeritel'naya Tekhnika (USSR) 1958, no. 5, p. 24-25	508
1958, no. 5, p. 65-66	507
Iznos Rezhushchego Instrumenta 1958, p. 14-38, 174-183, 232-255, 262-272	B-5
Izostaziya i Izostaticheskie Gipotezy, Moscow, 1957, v. 2, no. 38	B-1
Izvestiya Vysshikh Uchebnykh Zavedeniy. Aviatsionnaya Tekhnika (USSR) 1958, no. 4, p. 22-29	501
Izvestiya Vysshikh Uchebnykh Zavedeniy. Chernaya Metallurgiya (USSR) 1958, no. 2, p. 113-121	529
Izvestiya Vysshikh Uchebnykh Zavedeniy. Fizika (USSR) 1959, no. 3, p. 170	B-6
1959, no. 6, p. 95-101	506
Izvestiya Vysshikh Uchebnykh Zavedeniy. Gornyy Zhurnal (USSR) 1958, no. 6, p. 130-135	532
Izvestiya Vysshikh Uchenykh Zavedeniy. Khimiya i Khimicheskaya Tekhnologiya (USSR) 1958, no. 1, p. 86-93	487
1958, no. 1, p. 86-93	487
Izvestiya Vysshikh Uchebnykh Zavedeniy. Matematika (USSR) 1959, no. 5(12) p. 104-111	525
Izvestiya Vysshikh Uchebnykh Zavedeniy. Radiotekhnika (USSR) 1959, no. 3, p. 267-282	506
1958, July/Aug, p. 415-421	506
Izvestiya Vysshikh Uchebnykh Zavedeniy. Tekhnologiya Tekstil'noy Promyshlennosti (USSR) 1958, v. 2, no. 3	522
Izvestiya Vysshikh Uchebnykh Zavedeniy. Tsvetnaya Metallurgiya (USSR) 1958, no. 3, p. 94-96	532
Izvestiya Vysshikh Uchebnykh Zavedeniy. Tsvetnaya Metallurgiya (USSR) 1959, no. 4, p. 151-152	532
1959, no. 4, p. 152-155	532
1959, no. 4, p. 158-160	532
Jernkontoret, Stockholm. Annaler (Sweden) 1958, v. 142, no. 6, p. 319-355	529
Journal de Chimie Physique (France) 1959, v. 56, p. 532-547	B-3
Journal de Physique et le Radium (France) 1958, v. 19, no. 12, p. 927-929	B-4
Journal of Antibiotics. Series B. (Japan) 1959, v. 12, no. 6, p. 198-199	478
Kao Fen Tzu T'ung Hsun (Chinese People's Republic) 1959, v. 3, p. 193-195	488
1959, v. 3, no. 5, p. 210-224	502
1959, v. 3, no. 5, p. 297-300	502
Khimicheskaya Nauka i Promyshlennost' (USSR) 1958, v. 3, no. 4, p. 511-514	483
1959, v. 4, no. 3, p. 407-408	B-5
Khimicheskaya Promyshlennost' (USSR) 1957, no. 3, p. 129-132	503
1959, no. 4, p. 62-64	B-4
Khimiya i Tekhnologiya Topliv i Masel, (USSR) 1958, v. 3, no. 9, p. 29-34	540
1958, v. 3, no. 12, p. 15-21	486
1959, v. 4, no. 4, p. 25-31	502
1959, v. 4, no. 5, p. 42-51	502

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1959, v. 4, no. 8, p. 19-22	485
1959, v. 4, no. 12, p. 1-68	501
Khimiya Redkikh Elementov (USSR)	
1954, v. 1, p. 45-51	B-5
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1957, ser. 4, no. 30, p. 2-32	536
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1959, no. 7, p. 16-20	478
Kislorod (USSR)	
1959, v. 12, no. 5, p. 1-6	489
Klinicheskaya Elektro-Entsefalografiya, Moscow,	
1956, p. 85-102	477
Klinische Monatsblatter fur Augenheilkunde, pub. by Ferdinand Enke Verlag, Stuttgarte (West Germany)	
1957, v. 130, no. 5, p. 666-676	479
Klinische Wochenschrift (Germany)	
1958, v. 36, no. 22, p. 1061-1066	479
K'o Hsueh T'ung Pao (Chinese People's Republic)	
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1959, no. 16, p. 511-513	540
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1958, no. 2, p. 59-60	469
Maschinenwelt und Elektrotechnik (Austria)	
1956, v. 11, no. 5/6, p. 63-67	514
Masloboyno-Zhirovaya Promyshlennost' (USSR)	
1958, v. 24, no. 7, p. 1-9	503
Matematika v SSSR za Sorok Let 1917-1957, Moscow,	
1959, p. 857-877	544
1959, p. 879-886	525
Meditsinskaya Promyshlennost' SSSR,	
1957, v. 11, no. 10, p. 13-18	477
1957, v. 11, no. 10, p. 18-22	480

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1958, v. 3, no. 8, p. 79-81	480
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1957, no. 11, p. 56-65	512
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Metallurg (USSR)	
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1959, v. 4, Apr, p. 17-19	532
la Metallurgie et la Construction Mecanique (France)	
1953, v. 85, no. 1, p. 15-19	529
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1959	528
Meteorologiya i Gidrologiya (USSR)	
1957, no. 6, p. 12-20	496
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1959, no. 9, p. 54-57	493
Mezhdunarodnyy Geogizicheskiy God. Informatsionnyy Byulleten (USSR)	
1959, no. 7, p. 57-64	498
Mif o Dushe; Sovremyennaya Nauka o Psikhicheskoy Deyatel'nosti Cheloveka, Moscow,	
1958, no. 2, p. 1-168	474
Mikroaerologicheskiye Issledovaniya Nizhnego Kilometrovogo Sloya Atmosfery, Leningrad,	
1957.	499
Mikrostruktura i Makrostruktura Uprugikh Voln v Odnomernykh Nepreryvnykh Neodnorodnykh Sredakh, Moscow,	
1958, v. 3, no. 39	B-1
Minerva Anestesiologica (Italy)	
1958, v. 24, no. 12, p. 505-509	474
Minerva Medica (Italy)	
1959, v. 50, no. 12, p. 377-380	478

Journal	Page
Ministerstvo Elektrotekhnicheskoy Promyshlennosti. Raboty po Mekhanizatsii i Avtomatizatsii Narodnogo Khozyaystva (USSR) 1956, no. 2, p. 113-116	508
Moscow U. Vestnik. Seriya Matematiki, Mekhaniki, Astronomii, Fiziki, Khimii (USSR) 1958, v. 13, no. 4, p. 45-56	474
Nakopleniye Radioaktivnykh Elementov v Organizme i ikh Vyvedeniye (Accumulation of Radioactive Elements in the Body and the Excretion of them) Moscow, 1958, p. 44-85	480
Narodnoye Khozyaystvo Kazakhstana (USSR) 1959, no. 8, p. 21-26	532
Narodnoye Obrazovaniye (USSR) 1959, no. 4, p. 107-111	474
Natura e Vita (Italy) 1954, v. 14, no. 1, p. 15-28	482
Natuurwetenschappelijke Studierkring voor Suriname en de Nederlandse Antillen, 1954-59, nos. 10, 12, 14, 17 and 19	482
1957-59, nos. 16 and 18	482
Neftyanoye Khozyaystvo (USSR) 1959, v. 37, no. 6, p. 65-67	501
Neue Hütte (East Germany) 1958, v. 3, no. 9, p. 523-532	531
Nihon Kagaku Zasshi (Japan) 1953, v. 74, p. 400-401	483
Nitrocellulose (Germany) 1940, no. 12, p. 227-229	510
Nouveau Traite de Chimie Minerale, Paris, 1958, v. 12, p. 617-680	B-3
Novoye v Voyennoy Tekhnike, pub. by Ministry of Defense, USSR, 1958	508
Novyy Khirurgicheskiy Arkiv Ukraynskoy SSR 1959, no. 4, p. 3-12	480
Nukleonik (West Germany) 1958, v. 1, no. 8, p. 305-314	B-4
O Nekotorykh Problemakh Khimicheskoy Kinetiki i Reaktsionnoy Stosobnosti, 2d ed. 1958/59	483
Optika i Spektroskopiya (USSR) 1957, v. 2, no. 6, p. 710-716	539
1957, v. 2, no. 6, p. 717-723	539
Papir a Cellulosa (Czechoslovakia) 1959, v. 14, no. 7, p. 149-150	524
Parupu Kami Kogyo Zasshi (Japan) 1959, v. 13, no. 6, p. 379-384	524
Patent (Germany) 1055508	B-2
1058024	B-3
1060846	B-5
Patent (Japan) pub. 34-2969	488
Patent (USSR) 103 306, app.	517
105 243	517
Patent (USSR) (con.) 105 697	514
118 563	540
Patologicheskaya Fiziologiya i Eksperimental'naya Terapiya (USSR) 1959, v. 3, no. 6, p. 65-68	475
Paton Commemoration Volume Moscow 1956, p. 117-134	515
1956, p. 150-161	516
1956, p. 310-318	515
Peredovoy Nauchno-Tekhnicheskiy i Proizvodstvennyy Opyt (USSR) 1958, topic 40, no. P-58-20/1, p. 3-45	525
Plastichnost', Moscow-Leningrad, 1948, chap. 6, p. 339-344	526
Podzemnaya Gasifikatsiya (USSR) 1957, no. 4, p. 67-69	522
Politekhnicheskiy Institut. Leningrad. Trudy (USSR) 1957, no. 189, p. 43-50	531
1957, no. 189, p. 58-67	516
Poluprovodnikovyye Pribory (Semiconductor Devices) Moscow, 1957, chap. 2, sect. 5	508
Polyolefins: Ziegler, Montecatini and others. 1959, 6p.	483
Pribory i Tekhnika Eksperimenta (USSR) 1957, no. 6, p. 22-30	535
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Problemy Fiziologii Tsentral'noy Nervnoy Sistemy, Moscow/Leningrad, 1957, p. 62-72. (reprint of Dairy Science Abstracts (Gt. Brit.) Feb 59, v. 21, no. 2, review article no. 76.	471
Przeglad Spawalnictwa (Poland) 1957, v. 9, Mar, p. 82-84. (Abridged from Przeglad Spawalnictwa (Poland) 1955, v. 7, no. 1, p. 7-12)	517

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la Revue Maritime, Editions Ozanne, Paris,	
1957, Special issue no. 139, p. 1503-1513	501
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Sao Paulo U. Clinica Ginecologica Anais (Brazil)	
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542	JPRS(DC)-L-873	528	JPRS(NY)-2231	475	MinPower T-159	519
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540	JPRS(DC)-L-896	496	JPRS(NY)-2245	477	MinPower T-161	521
502	JPRS(DC)-L-899	496	JPRS(NY)-L-520	506	MinPower T-163	504
540	JPRS(DC)-L-902	494	JPRS(NY)-L-551	511	MinPower T-165	522
521	JPRS(DC)-L-907	506	JPRS(NY)-L-548	477	MinPower T-169	520
520	JPRS(DC)-L-911	511	JPRS(NY)-L-620	478	MinPower T-173	528
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